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PROCEEDINGS
OF THE
CONNECTICUT MEDICAL SOCIETY,
1892.
ONE-HUNDREDTH
ANNUAL CONVENTION,

HELD AT
NEW HAVEN, MAY 25TH, 26TH AND 27TH.

CENTENNIAL VOLUME,
PUBLISHED BY THE SOCIETY.

N. E. WORDIN, A.M., M.D., Secretary,
BRIDGEPORT, CONN.

BRIDGEPORT, CONN.:
BUCKINGHAM & BREWER, 90 MIDDLE STREET,
1892.

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L'ENVOI.

The Publication Committee desires to say a few words upon the issuing of this Centennial Volume of the Proceedings. In spite of the large size, more than eleven hundred pages, the typographical work could have been completed and the book issued at the usual time, the printers having made arrangements for that, but that circumstances have rendered delay necessary. It is to be hoped that delight may be sweeter for the delay.

We deem it just that especial mention should be made of the work of Drs. Gurdon W. Russell and John B. Lewis, both of Hartford, for their important contributions to complete our history. Dr. Russell, with patient, persistent work, has given to us a carefully written and thorough history of the early medical men of Connecticut. He has printed at his own expense the one hundred and twenty-five pages of the Proceedings which comprise his article and has furnished copies in wide margins for the libraries of the State. An extension of the work beyond the limit at first allowed, has rendered necessary a repetition in the paging, which has been done by the use of a star.

Dr. J. B. Lewis, after a careful research extending over a period of years, has prepared an alphabetical list of the entire membership of the Society from its very beginning. This list is to be relied upon as correct, and will be valuable in the history of the State for genealogical purposes and other uses outside of our Society. The index of contents showing the contribution of each member to the work of the Society up to the present time well completes and finishes the Centennial Volume.

Dr. Lewis' work, comprising one hundred and sixty printed pages, has been entirely a labor of love. The Society is fortunate in having such co-laborers.

It is found in revising the list of Honorary Members, that six whose names have been continually reported, are dead. They have gone without our knowledge. Some more extended notice of them should appear in our next issue.

With thanks for the courtesy of every gentleman who has contributed for these pages, and begging indulgence of every member for the late appearance of the Proceedings, a thing beyond our control, we send out for your kindly approval this record of the one hundredth annual convention of the Connecticut Medical Society.

C. D. ALTON,
ROBERT LAUDER,
N. E. WORDIN,

Publication Committee.

The Connecticut Medical Society does not hold itself responsible for the opinions contained in any article, unless such opinions are indorsed by a special vote.

All communications intended for the Connecticut Medical Society must be addressed to N. E. Wordin, M.D., Bridgeport, Conn.

The Century Dictionary has been used, as far as possible, in the preparation of this volume.

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OFFICERS OF THE SOCIETY.

1892—1893.

PRESIDENT.

CYRUS B. NEWTON, Stafford Springs.

VICE PRESIDENT.

FRANCIS D. EDGERTON, Middletown.

VICE PRESIDENTS, *ex officio*.

W. A. M. WAINWRIGHT,
SAMUEL DUTTON GILBERT,
GEORGE H. JENNINGS,
FRANCIS J. YOUNG,
E. H. DAVIS,
WILLIAM J. FORD,
MINER C. HAZEN,
STEPHEN G. RISLEY.

TREASURER.

W. W. KNIGHT.

SECRETARY.

N. E. WORDIN.

COMMITTEE ON MATTERS OF PROFESSIONAL INTEREST IN THE STATE.

JOHN G. STANTON, WALTER H. HOLMES,
JAMES B. GREGORY.

STANDING COMMITTEES

Committee to Nominate Physicians to the Retreat for the Insane.

GEORGE L. PORTER, M.D., O. J. D. HUGHES, M.D.,
JAS. C. CAMPBELL, M.D., R. W. MATHEWSON, M.D.,
FRANCIS L. DICKINSON, M.D.

Committee on Legislation.

M. STORRS, M.D., F. BACON, M.D.,
L. S. PADDOCK, M.D., E. F. PARSONS, M.D.,
N. E. WORDIN, M.D.

Committee on Publication.

N. E. WORDIN, M.D., *ex officio*.
ROBERT LAUDER, M.D.,
C. D. ALTON, M.D.

Committee of Arrangements.

JAMES CAMPBELL, M.D., *Anniversary Chairman*.
M. M. JOHNSON, M.D.,
CHARLES D. ALTON, M.D.

Dissertator.

FRANCIS J. YOUNG M.D.

Alternate.

E. B. LYON, M.D.

PROCEEDINGS
OF THE
CONNECTICUT MEDICAL SOCIETY,
ONE HUNDREDTH ANNUAL CONVENTION.

The President and Fellows of the Connecticut Medical Society met in Dwight Hall, on the grounds of Yale University, New Haven, at 10 A. M. Wednesday, May 25th, 1892.

The President, Dr. C. A. Lindsley, promptly called the meeting to order and asked for the report of the Committee on Credentials. The Secretary announced the following. The report was adopted.

FELLOWS, *ex officio*.

President.

CHARLES A. LINDSLEY.

Vice President.

*CYRUS B. NEWTON.

Vice Presidents, ex officio.

*W. A. M. WAINWRIGHT,
SAMUEL DUTTON GILBERT,

*GEORGE H. JENNINGS,
FRANCIS J. YOUNG,

*E. H. DAVIS,

*WILLIAM J. FORD,
MINER C. HAZEN,

*STEPHEN G. RISLEY.

*Absent.

Treasurer.

W. W. KNIGHT.

Secretary.

N. E. WORDIN.

Committee on Matters of Professional Interest

*JOHN G. STANTON, *BYRON W. MUNSON, *EVERETT J. McKNIGHT.

FELLOWS ELECTED IN 1892.

Hartford County.

Gurdon W. Russell,	Horace S. Fuller,
G. W. Steadman,	R. W. Griswold,
M. M. Johnson.	

New Haven County.

Frank B. Tuttle,	J. M. Benedict,
Charles E. Park,	Herbert E. Smith,
Elbridge W. Pierce.	

New London County.

Charles B. Graves,	Leonard B. Almy,
F. N. Braman,	Patrick Cassidy,
*William M. Burchard.	

Fairfield County.

A. E. Barber,	Jacob May,
F. Gorham,	Loren T. Day,
Francis J. Young.	

Windham County.

*Charles J. Fox,	*Lowell Holbrook,
*T. R. Parker,	*F. A. Morrell,
*A. H. Tanner.	

Litchfield County.

*Henry W. Buel,

*Orlando Brown,

*John L. Buel,

*William McLaren,

*J. H. North.

Middlesex County.

R. W. Mathewson,

F. D. Edgerton,

Sylvester W. Turner,

C. A. Sears,

F. E. Potter.

Tolland County.

Charles F. Sumner,

William C. Haven,

*E. T. Davis.

The President then delivered the

ANNUAL ADDRESS TO THE FELLOWS.

Gentlemen—Fellows and Members of the Connecticut Medical Society:

The expiration of a hundred years, in the measure of the life career of an institution or of an organization, is pregnant with suggestive thoughts. It is a fact, a striking and impressive fact, which involuntarily associates itself with the causes and influences which have contributed to an uninterrupted existence for so long a period.

A life so enduring is a title of character; a certificate of good conduct; a voucher of respectability.

The Connecticut Medical Society has lived and maintained a vigorous and healthy existence throughout the century under an organization which has received but little change in its fundamental principles.

It now enters upon its second century with undiminished vitality and with indications that it is even yet in its youth, with promise that still future centuries may find it growing.

Respecting such an institution, I have no revolutionary reforms to suggest.

The few topics of a practical nature which I wish to bring

*Absent.

to your attention, as proper subjects for your consideration and possible action, may be briefly presented.

In taking a retrospective glance over the past year we are saddened with the fact that some names which have so often appeared upon the pages of our published Proceedings year after year, will be seen no more.

Those with whom we have so often exchanged mutual greetings on occasions like this are not with us to-day.

The great reaper death has been busy in our midst, and has garnered a goodly number during the year.

The Secretary in his report, will give you the list of our brothers who have finished their labors, but I cannot refrain from a word or two of tribute to the memory of one or two whose faces have been so long familiar, that their loss must bring to many of us, a sense of real personal grief.

Dr. Isaac G. Porter, a former President of the Society, died only last month.

He was a graduate of Yale in 1826, a student in the Medical Department of Yale and in the University of Pennsylvania, where he took his medical degree in 1833.

He was in active practice for a period of over fifty years. Devoted to the best interests of the profession, an earnest student, and one of the most liberal contributors to the current medical literature of his times. He has done his life's work and he has done it well. His contemporaries, those who knew him best, and loved him best, have mostly gone before him, but he leaves a memory fragrant with good deeds and faithful service. We can only revere his name and emulate his worth.

Dr. Levi Ives died December 1st, 1891, aged seventy-five. Dr. Ives was a descendant of a long line of medical ancestors reaching back into the last century.

They were all honored names in the profession, and the subject of these remarks has in no wise diminished the lustre which his forefathers gave it.

His grandfather of the same name was one of the corporators of this society. He was an enthusiastic rebel patriot and served as surgeon's mate in one of the first Connecticut regiments called into service in the Revolutionary war.

Dr. Ives has for more than fifty years been an active practitioner in this his native town. He has enjoyed probably to a greater degree than any of his contemporaries, the esteem, the confidence and love of the people among whom and for whom he has labored.

During many years of his active life he was oftener called in consultation by his professional brethren than any other general practitioner.

For his manly character he was respected, for his integrity he was trusted, for his judgment and skill he was sought after and valued. He was a typical "beloved physician" of whom it may be more truly said than any one that I ever knew:

"None knew him but to love him,
None named him but to praise."

He has gone to his rest, full of years, and full of the honors of a well spent life.

The Committee on Biographical Sketches will do more complete justice to these and other names than the present occasion permits.

The unquestioned benefits which are everywhere recognized to result from stated occasions of professional intercourse, make it very much to be desired, that all reputable members of our profession should be associated together with us in the State Society.

The advantages of occasional opportunities to exchange opinions upon the many questions which constantly present themselves for consideration cannot fail to result in giving interest, information and suggestive thought, to most, if not all who take part in such discussions. So widely and universally are such advantages appreciated, that all men pursuing similar scientific studies or practice, organize themselves into societies for mutual improvement.

I make mention of this because I observe by the report of the Secretary at the last meeting it is evident that our society is not increasing in proportion to the additions to the number of practitioners.

It is a matter worthy of serious consideration by the County Associations, whether every proper effort has been

made to develop and increase the interest of their meetings; and whether the master minds among them are doing all their duty in inducing all eligible candidates to join them.

REVISION OF THE BY-LAWS.

At the last meeting of the President and Fellows, a committee was appointed on a revision of the By-laws, and to propose an "Order of Exercises."

They are expected to report at this meeting. The work on which they have been engaged is one of great importance. It has been entrusted to a most capable committee long familiar with the interests of the Society and I have no doubt they will present a revision of the By-laws so satisfactory that it will be accepted with unanimity.

THE MEDICAL PRACTICE ACT

Is still a subject for our consideration. The two branches of the Connecticut Legislature have been so party bound during the past year that any progress in this undertaking has been utterly impossible. It may be reasonably expected that the elections next autumn will break the deadlock and the wheels of State will be again in motion.

Although previous efforts have failed of success in obtaining satisfactory legislation on this subject, there is no occasion for despair. The battle in the interest of the public ought to be resumed as soon as the opportunity offers. Success is sure, even if not immediately attained. No great reforms were ever yet accomplished without persistent effort and more often *after* repeated failures.

Over forty States and Territories have already won the battle against the forces of fraud and ignorance. Connecticut must soon follow. She will not be the last to give safe harbor to the horde of impostors escaping from other States, and flocking here to prey upon our communities.

It is, I believe, possible to pierce the crust of party expediency which so thickly envelops a Connecticut legislature and touch its intelligence on this question. "If," says President Eliot, "the sufferings inflicted on the poorer and less intelligent persons of the community, and the economic losses inflicted on the whole community, by incompetent

practitioners of medicine and surgery, could be brought home to American legislators, the quacks and charlatans would have short shrift, in spite of the inevitable interference with so-called private rights. Registration acts for practitioners of medicine would be promptly passed, and vigorously enforced."

I would most heartily recommend that the efforts of the Society in behalf of a Medical Practice Act be continued at the next working session of our Legislature, and pushed with energy.

There are two enterprises of national interest which are now being undertaken, almost wholly by the medical profession, to wit: A Pan-American Medical Congress and a Medical Secretary of Public Health.

The one entirely for the promotion of medical science, "The Pan-American Medical Congress," is to be held in the city of Washington, D. C., in September, 1893.

The incorporation of this organization has been completed and its general officers appointed. The plan is on the most comprehensive scale, intending to include representatives of the profession from every part of the Western Hemisphere, and to embrace in its discussions the whole circle of medical science and Hygiene. The scope and purposes of the Congress can be best learned from the regulations which have recently been published. In the opening paragraph of which it is declared that there shall be a series of these congresses, the interval not being yet determined. The scheme proposes over twenty sections, each devoted to some different specialty in medicine.

An enterprise of such magnitude can hardly be successfully carried on without some aid from the general government. Such gatherings of scientists from all parts of the continent, like the great congresses which have been held in Europe, will surely be promotive of progress, stimulants of renewed effort, suggestive of new lines of thought and positive agencies in the advancement of science, and through science of those conditions which elevate humanity. For all true knowledge as a final result contributes to the betterment of man.

European governments appreciate these benefits and encourage with liberal pecuniary aid such organizations. Our own government will be solicited to do so for this Congress. I would most heartily recommend that the proposed Pan-American Congress to be held in Washington in 1893 should receive the hearty endorsement of the Connecticut Medical Society, and that a committee be appointed from this Society to coöperate with its officers.

The other proposition, was like the first, a child of the American Medical Association.

A bill has been presented to Congress to establish a Department of Public Health at Washington, under the direction of a "Medical Secretary of Public Health," who shall be a member of the Cabinet.

The need and importance of such an officer can best be appreciated by those who have made themselves acquainted with the miscellaneous methods, the diversified and often discordant systems of administration of public hygiene, under local institutions in the separate States of the Union. The whole constitutes a grand army of good soldiers, in all degrees of training and discipline, but without a general.

Under present conditions there can be no concert of action or unity of purpose, even in the face of a common enemy, with which we are at any time liable to be threatened.

The United States has commercial relations with almost every part of the habitable world.

There are certain exotic diseases of an epidemic character, which have more than once invaded this country with disastrous effects.

Local health organizations cannot be relied upon, except possibly in some large port like Boston, New York or New Orleans, to prevent future invasions. A health department at the seat of the National Government in constant communication with foreign ports through proper officers, would be in a position to receive and give timely information of the prevalence of disease that may threaten us, and to advise and take such precautions as will prevent the introduction of it into any of our ports.

Such a department could, also, through a proper system of

communication, keep well informed of the current state of health throughout our own broad country, and often render most valuable service in controlling domestic epidemics.

It would fall also within the functions of a national health department to make collective investigations in regard to the diseases which mostly prevail among people with reference to climate, occupation, and other considerations which may influence them, to institute enquiries into the nature, origin, causes and means of prevention of the contagious and infectious diseases which are endemic or epidemic.

The results of their investigations should be distributed for the information and guidance of State and local boards of health.

These are only a few of the many ways in which a Medical Secretary of Public Health could be made of inestimable value to the highest interests of our country by improving its standard of health.

"Individual effort," says J. W. Noble, Secretary of the Interior, "has done wonders in detecting sources of danger to communities and the discussion of such discoveries has interested every household.

"But liberal as the medical profession is and has, in our country, proved itself at all times to be, it is not fair or polite for us to leave it unsupported and nationally unrecognized.

"The international communication of intelligence that would follow the organization of a Bureau of Public Health would not only preserve our own inhabitants from many physical ills, but would greatly serve to strengthen the sympathy between all civilized peoples who would correspond and coöperate with us.

"They would feel the same beneficent influences of the system as we would realize."

I would earnestly recommend that the Connecticut Medical Society give the weight of its influence in promoting this object by expressing our approval in the form of a resolution to be sent to our Representatives in Congress.

There is one more matter which I believe your sense of right will justify me in recommending.

The very onerous labors which are imposed upon our Sec-

retary in conducting a large correspondence, superintending the publication of our annual Proceedings, and in attending to the many matters of detail in arranging for our annual meetings is not adequately compensated by a small stipend of fifty dollars. I think it but just to recommend that an honorarium of one hundred dollars per annum be paid to that officer in future.

In conclusion permit me to express my appreciation of the high honor you have conferred upon me in electing me to preside at your meetings and in the Conventions of the Society. I shall endeavor to discharge my duty impartially and to the best of my ability.

I now declare the Meeting of the President and Fellows open and ready for the transaction of business.

A committee of three was appointed to consider the subjects recommended by the President in his address, to report as soon as possible.

Doctors F. D. Edgerton, M. M. Johnson and H. E. Smith were elected as members of the committee.

The President announced the following Committees :

On Credentials.

Charles F. Sumner, M.D., N. E. Wordin, M.D., *ex officio*.

On Unfinished Business.

S. B. St. John, M.D., C. J. Fox, M.D.,
C. B. Graves, M.D.

On County Resolves.

George H. Jennings, M.D., M. M. Johnson, M.D.,
L. T. Day, M.D.

On Business.

S. D. Gilbert, M.D., C. E. Park, M.D.,
N. E. Wordin, M.D., *ex officio*.

On Honorary Members and Degrees.

G. W. Russell, M.D., W. A. M. Wainwright, M.D.,
Lowell Holbrook, M.D.

Auditing.

F. H. Morrell, M.D.,

F. B. Tuttle, M.D.

To Nominate Reporters on the Progress of Medicine and Surgery.

F. J. Young, M.D.,

L. B. Almy, M.D.,

H. S. Fuller, M.D.

On Reception of Delegates and Invited Guests.

J. P. C. Foster, M.D.,

H. E. Smith, M.D.,

Charles J. Fox, M.D.,

H. W. Ring, M.D.

The Committee on Unfinished Business reported that no amendments to the by-laws were submitted at the last meeting.

The Treasurer then rendered his annual report, which was received and referred to the Auditing Committee.

REPORT OF TREASURER.

To the President and Fellows of the Connecticut Medical Society :

As Treasurer I would present the following report of the finances of the Society for the year ending May 24th, 1892 :

RECEIPTS.

Balance from old account,	-	-	-	\$ 518 96
Received from County Clerks, tax of 1891,	-	-	-	745 00
“ “ “ “ “ 1890,	-	-	-	59 70
“ “ “ “ “ 1889,	-	-	-	1 80
“ “ “ “ special tax of 1891,	-	-	-	668 80
Received from exhibitors at meeting of 1891,	-	-	-	
through Committee of Arrangements,	-	-	-	70 50
Total receipts,	-	-	-	\$2,064 76
Total expenses,	-	-	-	833 12
Cash in Treasury May 24, 1892,	-	-	-	\$1,231 64
Increase of receipts from regular taxes,	-	-	-	45 50
Increase of expenses,	-	-	-	167 49

Amounts Due on Tax of 1891.

Hartford County,	-	-	-	-	Nothing.
New Haven County,	-	-	-	-	\$34 00
New London County,	-	-	-	-	10 00
Fairfield County,	-	-	-	-	16 00
Windham County,	-	-	-	-	14 00
Litchfield County,	-	-	-	-	18 00
Middlesex County,	-	-	-	-	Nothing.
Tolland County, -	-	-	-	-	10 00
					<hr/>
Total taxes in arrears,	-	-	-	-	\$102 00
Decrease from 1891,	-	-	-	-	12 00

The special tax has been very well paid, falling only about seventy-five dollars below the regular tax. The six hundred and sixty-eight dollars from this source gives the Society a cash balance of one thousand, two hundred and thirty-one dollars and sixty-four cents. Last year the Proceedings cost the Society something over five hundred and fifty dollars. This year we have several times as many papers on the program, which if all are printed will carry the expense far beyond the ability of the Treasury to pay unless an extra tax is laid. As I have no information as to the plans of the Committee on Publication I can give no estimate as to the amount necessary to be raised, but we shall evidently need more than the ordinary tax to meet all expenses.

Respectfully presented,

W. W. KNIGHT, Treasurer.

This is to certify that I have examined the Treasurer's accounts and find the same correct.

F. B. TUTTLE,

Auditing Committee.

Of Special Committees the first to report was the Centennial.

REPORT OF THE CENTENNIAL COMMITTEE.

The full committee did not meet until the 12th of October last, because by the resolution establishing that body it included the Committee of Arrangements, which could not be appointed until the annual meeting of 1891. The place of meeting was in Hartford.

The Secretary having reported the results of collecting the extra tax a discussion was held on the advisability of rooms in New Haven for the proper celebration of the Centennial. The matter was referred to the Committee of Arrangements to examine and report at a future meeting.

Doctors Storrs and C. A. Lindsley gave an account of the manner in which they were entertained as delegates to the Centennial of the New Hampshire Society, and Dr. Lindsley suggested that we adopt the method of the American Medical Association, having general exercises in the morning, work in the Sections during the afternoon.

It was decided that Mr. Hoadly, State Librarian, be requested to read a paper which he had prepared on some early post mortems, the Committee of Arrangements to fix upon the time.

Dr. Campbell reported that his section would probably have fifteen or twenty papers.

It was arranged that each chairman of a Section should select a Secretary and two Vice Presidents, and the appointments were immediately made.

Dr. Wainwright named Dr. Foster as a member from New Haven to have charge of the relique exhibition and stated his plan of issuing circulars calling for contributions.

The second meeting of the current year was also held in Hartford on the 22d of November.

The records of the previous meeting were read and accepted. A letter was read from Mr. Hoadly accepting his appointment.

Dr. Bacon reported that the committee had secured through favor of the Corporation of Yale University, Dwight Hall on the University grounds, a building with abundant room and just such facilities as were desired, all under one roof.

A motion was passed that the meeting extend over three days, including the one for the Fellows, and that the banquet be held on the evening of the second day. A further motion was passed that the Secretary call the meeting of the Fellows on the morning of Wednesday at ten o'clock.

The following assignment of addresses was made:

Thursday—Dr. Bacon at 11 A. M. The President's address at 12.

Friday—Mr. Hoadly's paper at 11 A. M., the regular Dissertation, Dr. Edgerton, at 12, the chairmen of Sections to prepare schedules of their Sections with titles of papers and the time at which they should be read, and forward them to the Secretary, to be incorporated into the general program.

The third and last meeting was held in New Haven on Saturday, March 19th last.

Dr. Storrs was chosen chairman. The records of the previous meeting were read and approved.

Dr. Foster was authorized to receive such reliques as his committee should deem suitable, and draw upon the Treasury for expenses incurred, with the privilege of providing a room and a custodian.

Dr. J. B. Lewis of Hartford was requested to prepare a Centennial Index of the titles of articles which have appeared in our Proceedings since their beginning, and also of the members of the Society during the same time, and to correct the present alphabetical list of the Society.

The resignation of Dr. Russell as chairman of the subcommittee on Invitations was received and accepted and Dr. Foster was appointed chairman in his place.

The program of the Sections, as far as they had been prepared, were announced.

Moved that when we adjourn it be subject to the call of the chairman of the Committee of Arrangements.

The committee respectfully presents to the Society to-day the result of its deliberations and labor and hopes that all may prove satisfactory on this auspicious occasion.

N. E. WORDIN, Secretary.

Dr. C. A. Lindsley reported for the committee appointed last year to secure a suitable place for the preservation of the Archives (p. 28). After conferring with several public libraries the committee have deemed it best to deposit their books with the Free Public Library of New Haven, which will take them as a loan, allowing them to remain as the actual property of the Connecticut Medical Society, and submit the correspondence concerning the matter:

NEW HAVEN, May 10, 1892.

To the Directors of the New Haven Free Library;

SIRS:—A committee appointed by the Connecticut Medical Society “to secure a suitable place for the preservation of the Archives of the Society,” desire to know if they can be received in the Free Library of New Haven, as a loan from our Society, to be kept by themselves, under your care, and to be accessible to the public as books of reference, while they remain in your keeping.

We are not able to state the number of volumes in the possession of the Society at present, but probably there are two or three hundred, with yearly accessions, by exchanges chiefly, with other like Societies. We think the Society would prefer that none of their books be removed from your library, except by written permission of its Secretary, but to be of free use to the general public, under the same regulations as your own books of reference.

Very Respectfully,

C. A. LINDSLEY, }
N. E. WORDIN, } Committee.

NEW HAVEN, Conn., May 16, 1892.

Hon. C. A. Lindsley:

DEAR SIR:—At a meeting of the Directors of the Free Public Library held on the 14th inst., it was voted to accept the proposition of the Connecticut Medical Society, to accept its books and place them on the shelves of the Society. The Directors were not unanimous about the books being taken out of the library and that matter was left open for future consideration after a conference between the Directors and your Society. For the present the books, if placed in the library, will be used only as reference books and in the library. Should be glad to confer with you and explain more fully the situation if you desire it.

Per Order of Directors,

DAVID CALLAHAN, Sec. F. P. L.

Dr. Cassidy was glad that the Archives could find a permanent place and moved that we accept the report and the terms of the Directors of the Public Library of New Haven. Motion carried.

Dr. White, chairman of the Committee to Revise the By-Laws, reported:

REPORT OF COMMITTEE ON BY-LAWS.

The committee appointed to revise and harmonize the By-Laws would respectfully report that they have sought to arrange existing laws in their proper order, omitting such as have become obsolete and inoperative, retaining those that express the views of the President and Fellows as expressed by resolutions; putting them in regular form and modifying a few of the By-Laws, making changes which we believe will suit the majority of the Society.

Sickness and press of other duties have prevented the full consideration of the subject by all the committee, yet we hope our work is so far perfected that it can be adopted by the President and Fellows with such verbal changes, if any, as may be made by the committee before publication.

Respectfully submitted,

MOSES C. WHITE,
S. B. ST. JOHN.

May 25, 1892.

A motion was made that we suspend the By-Laws and consider seriatim, the suggestions of the Committee. Upon division of the question the motion was adopted, making the By-Laws as amended to read:

BY-LAWS.

CHAPTER I.

Titles and Meetings.

SECTION 1. This Society shall be known by the name of THE CONNECTICUT MEDICAL SOCIETY; and shall be composed of

the several County Associations, formed of Active Members residing in the State; and of Honorary Members, not residing in this State, elected by the President and Fellows.

SEC. 2. The President and Fellows of the Connecticut Medical Society shall hold an Annual meeting on the fourth Wednesday in May of each year, alternately at Hartford and New Haven, except when by a majority vote they may agree to hold the annual meeting in some other place.

SEC. 3. The Connecticut Medical Society shall hold an Annual Convention for Literary and Scientific exercises on the day or days immediately following the general meeting of the President and Fellows.

SEC. 4. The members of the Connecticut Medical Society, constituting County Associations, shall meet annually in their respective counties at least four weeks before the annual meeting of the President and Fellows, and at such other times as said County Associations may determine.

CHAPTER II.

Officers.

SECTION 1. The officers of the Society shall consist of a President, Vice President, Treasurer, Secretary and Assistant Secretary, Committee on Matters of Professional Interest in the State, and the Presidents of the County Associations, who shall be Vice Presidents *ex officio*.

SEC. 2. It shall be the duty of the President to preside at all the meetings of the President and Fellows and at the Conventions of the Society, to preserve order, state and put questions, call for reports of committees, see that the by-laws are properly observed, and perform such other duties as may be appropriate to his office. At the Annual Meeting of the President and Fellows, the President shall present such matter for their consideration as he may think requires attention. At the Annual Convention he shall deliver an address on some suitable subject.

SEC. 3. In the absence or disability of the President, the Vice President or one of the *ex officio* Vice Presidents shall preside. In case of a vacancy in the office of President,

caused by death, resignation, or removal, all the duties of his office shall devolve on the Vice President.

SEC. 4. It shall be the duty of the Treasurer to take charge and keep a correct account of all moneys belonging to the Society, together with the receipts and disbursements, and render annually to the President and Fellows a statement of all moneys received and paid by him. He shall preserve for the benefit of the Society, all donations and other movable property committed to his charge, and keep an exact list of the same, together with the name of the respective donors. He shall not pay any money out of the Treasury, nor make any investment of the funds of the Society, or change the same, but by the order of the President and Secretary. And he shall deliver to his successor all books and papers, with the balance of cash or other property of the Society in his hands.

SEC. 5.—The Secretary shall have charge of the records of the Society, attend all the meetings of the President and Fellows, and the Annual Convention of the Society, record all the transactions of the same, give true copies of them when requested, conduct their correspondence, and have the custody of the Seal of the Society. The Secretary shall be *ex officio* Chairman of the Committee of Publication. One of the elected members of the Committee of Publication, to be selected by the Secretary, shall be the Assistant Secretary. The Secretary shall send due notices of the annual meeting to each member, and publish notice of the same in three of the daily papers printed in this State. When definitely informed that the Delegates to the American Medical Association or any State Society cannot attend, he may appoint substitutes, or give certificates to those otherwise selected. The Secretary shall send each year an extra copy of the published "Proceedings" of the Society to each of the Clerks, for the use of the County Associations; also to other State Societies and to Honorary Members.

SEC. 6. The Committee on Matters of Professional Interest in the State, shall consist of three, and be *ex officio* Fellows of the Connecticut Medical Society, to be elected annually by ballot the first named to be Chairman, whose duty it shall be,

at every Annual Convention, to report the progress of our science, particularly in Connecticut—remarkable and instructive cases of disease that have come to their knowledge—interesting facts or discoveries relating to medicine—all circumstances connected with epidemics (if any have prevailed) and the treatment adopted, whether successful or otherwise—in short, whatever influences may concern the health of the citizens of Connecticut. And the more effectually to perfect this report, it shall be the duty of each County and other Association represented in this Society annually to appoint one of its members as a Reporter, who shall furnish to this Committee, on or before the first day of May, all the information he can get relative to these subjects, within the limits of the district in which the local Association exists.

SEC. 7. Any officer of the Society may, for sufficient reasons, resign his office, or may be removed therefrom by order of the President and Fellows, for neglect, inattention, or misconduct; in either of which cases, or on the death of any officer, the President and Fellows shall supply the office vacated as soon as may be convenient.

SEC. 8. The necessary expenses of the Treasurer, Secretary, and Chairman of the Committee on Matters of Professional Interest in the State, shall be paid; and in addition thereto the Treasurer shall receive twenty-five dollars and the Secretary fifty dollars per annum respectively for their services.

SEC. 9. The Secretary of the Society shall hold his office for four years and until another shall be elected. All other officers of the Society shall be elected annually.

NOTE.—By special vote this By-Law does not affect the tenure of office of the present Secretary.

CHAPTER III.

President and Fellows of the Connecticut Medical Society.

SECTION 1. The Annual Meeting of the President and Fellows of the Connecticut Medical Society shall be held on the fourth Wednesday of May in each year.

SEC. 2. The President, Vice President, Treasurer, Secretary, Committee on Matters of Professional Interest in the

State, and the Fellows elected in the several counties shall be known and called by the name of the President and Fellows of the Connecticut Medical Society, a majority of whom legally assembled together shall be a quorum for the transaction of business, and shall have the power to make by-laws for the regulation and government of the Society and for the promotion of the objects of the same, not repugnant to the laws of this State or of the United States; to expel any member of the Society for misconduct; to make rules for the admission of members of the Society; and for their dismissal from the same; to lay a tax on each member of the Society not exceeding five dollars in each year; to dispose of the moneys thus raised and all other property of the Society in such manner as they may think proper to promote the objects and interests of the Society.

The President and Fellows at any annual meeting, and after one year's nomination of every candidate, and not otherwise, may, by a major vote of those present, elect eminent physicians not resident in this State to be honorary members of this Society. But those so elected shall not exceed three in any one year.

SEC. 3. The President of the Society, or in case of his death or inability, the Vice President, shall have power to call a meeting of the President and Fellows at such time and place as he may think proper, when requested by any five Fellows of whom two at least are from different counties, and he shall cause notice thereof to be given by the Secretary to each member of the President and Fellows of the time and place of meeting, which notice shall be mailed at least one week previous to said meeting.

SEC. 4. Officers and Standing Committees shall be elected by ballot. The Committee of Publication shall consist of the Secretary, *ex officio*, and two other members elected by ballot, one of whom shall be Assistant Secretary. Each Annual County Meeting shall designate one of their elected Fellows to serve on the Nominating Committee of the President and Fellows. All other committees shall be appointed by the presiding officer of the Society. The President may appoint the usual committees two weeks before the Annual Convention.

SEC. 5. The President shall, at an early hour of the session, appoint a Committee of three Fellows, of which the Secretary shall be one, to be called the Business Committee, to whom all reports of cases, dissertations or other papers designed to be read at the Meetings of the Society shall be presented. This Committee shall examine them and recommend the manner and order in which they shall be read to the Society.

SEC. 6. It shall be the duty of the Fellows of the several counties to present to the Society short obituary sketches of deceased members, which shall be revised, amended or condensed by the Committee of Publication as they deem expedient. In case, however, of any considerable changes in obituary sketches either in revising, amending or condensing, said sketches shall be submitted to the writer before publication in the Proceedings.

CHAPTER IV.

County Meetings.

SECTION 1. The members of the Connecticut Medical Society shall meet annually in their respective counties, and at such other times and at such places as have been or may hereafter be agreed upon by them; *provided*, the annual meeting shall be at least four weeks before the fourth Wednesday in May. Each County Association of members of the Connecticut Medical Society shall be known and called by the name of the county in which it is held. Each County Association shall choose a President, Clerk and such other officers as may be found necessary. At their annual meeting they shall elect by ballot, of their own number, in each county, five, except in the county of Tolland which shall elect three, Fellows to have part in the superintendence and management of the Society. Each County Association shall elect as many Alternates as they elect Fellows, who shall act in the absence of their primaries. Each County Association shall designate one of their Fellows as a member of the Nominating Committee and another as his Alternate.

SEC. 2. The several County Associations shall have power to adjourn, to call special meetings, as they shall deem expe-

dient, and adopt such by-laws as they find desirable, not contrary to the laws of the State or the by-laws of the Connecticut Medical Society.

SEC. 3. Any practicing physician of good moral character having the qualifications prescribed by the Charter and By-Laws of the Connecticut Medical Society and making application for that purpose may be admitted to membership in said Society by a major vote by ballot of the members present at any regular meeting in the Association in the County where said person resides.

SEC. 4 All persons so elected shall, within one year after such election, subscribe to the by-laws of the Society or otherwise declare in writing their assent to the same, or such election shall be void.

SEC. 5. Any County Association may, by a major vote, dismiss from the Society any member of their county who shall remove from the State or who shall leave the profession for other pursuits.

SEC. 6. Any County Association may, if it is deemed expedient, recommend to the President and Fellows, for dismissal from the Society, any member residing in that county who shall apply for such dismissal by a written request to that effect, delivered to the Clerk of said County Meeting at least ten days before the time of holding any legal county meeting; and also any member who shall refuse or neglect to pay taxes; and upon the approval of such recommendation by the President and Fellows in annual meeting, the connection between such member and the Society shall be dissolved; *provided*, that no member shall be honorably dismissed from the Society until all his taxes shall have been paid.

The Clerk of each County Association shall omit from the roll of members which he reports to the Treasurer the names of all members who have for two years refused or neglected to pay the taxes assessed by the President and Fellows, reporting the names of such delinquents to the County Meeting. Said County Association shall suspend such delinquent members till said taxes are paid, or, unless they find good reasons for delay, may expel such delinquent members, reporting their action to the President and Fellows for approval.

The annual tax shall be collected from all members except the Clerks of County Associations; *provided*, that any County Association may recommend to the President and Fellows the abatement of the taxes, on account of disability or pecuniary embarrassment, of a member who is over sixty years of age.

SEC. 7. All violations of the by-laws of the Connecticut Medical Society, or of the Medical Police adopted by the Society, or of the rules and regulations passed by the County Associations in conformity with the by-laws of the State Society, may be prosecuted and tried in the respective County Associations, under the following regulations, viz.: They shall appoint from among their members three persons to be known as the Board of Censors, the duties of which board shall be to take cognizance and advisory consideration of all instances of violation of the by-laws of the Society, that may come to their knowledge or be properly presented to them, and shall make report to the County Association of their action whenever it shall seem to them expedient, or they shall be thereto ordered by the Association. The member accusing another of a violation of any of the before mentioned regulations, shall make a statement, in writing, of the transaction which he deems a misdemeanor, and lay the same before a Fellow of the Society; and such Fellow shall issue notification to the accused to appear before the next County Association, stating the time when and the place where it is to be held, to defend, if he sees fit, against such accusation. A copy of such accusation and notification shall be left with the accused, or at his last usual place of abode, at least twelve days previous to the time of holding the next County Association. And the accuser shall cause the said accusation and notification to be served and returned to the Clerk of the County Association on or before the day of their sitting; at which day the case with the accompanying papers shall be referred to the Board of Censors hereinbefore mentioned, who shall hear all evidence and report to the Association the conclusions at which they have arrived, and their reasons therefor, and the offender, upon conviction, may be punished by admonition, by suspension from the privileges of the Society for a period not exceeding two years, or by expulsion from the Society; *provided*, that no sentence of expulsion

sion shall be valid until confirmed by the President and Fellows in annual meeting.

SEC. 8. When a new Clerk is chosen in any of the County Associations, his predecessor shall deliver to him all the records and papers pertaining to the office, retaining copies of the same, if he think proper.

SEC. 9. It shall be the duty of the several Clerks of the County Associations, in their respective counties, to collect and pay over to the Treasurer of the State Society all such taxes as shall from time to time be laid by the President and Fellows upon the members of the Connecticut Medical Society. A certified copy of the levy of the tax signed by the President and Secretary, shall be sent annually to the Clerk of each County Association. And the Clerks shall be allowed a compensation of five per cent. on all moneys collected by them respectively and paid to the Treasurer of the State Society; *provided*, that such additional sum as the County Association may direct, not exceeding five per cent. of the moneys collected, may be retained by the Clerk to pay the expenses of the meetings of said Association.

SEC. 10. The Secretary shall send to each Clerk, before the annual meeting of the County Medical Association, blanks for the returns required for the Secretary and Treasurer of the State Society. The Clerks shall return to the Secretary a true list of the officers elected at the annual meeting, all the members of the County Associations, with the post-office address of each—in case of new members the date and place of graduation should be invariably given; the names of members who have died since the last meeting, with the name of the person appointed to write an obituary sketch; also a list of delinquent tax-payers, with the amount due from each, and all other information therein required that may be necessary for the Secretary to make up the program for the annual convention. This return shall be certified by the Clerk, who shall transmit to the Secretary obituary sketches of those who have died, and all papers destined for the Transactions of the Society, or to be acted upon in convention. The blank to be returned to the Treasurer shall contain a list of the taxable members and those exempt, with the reason therefor: also such other facts as

may be therein required, the whole return to be certified by the Clerk. Those who fail in this duty shall be subject to a fine of five dollars, to be collected by the Treasurer.

CHAPTER V.

Members.

SECTION 1. Each member of the Society shall have free access to the records of the Society, and of the County Association to which he belongs, and may take attested copies thereof if he request them.

SEC. 2. All the members of the Connecticut Medical Society have the privilege of attending all the meetings of the President and Fellows, and performing all the duties of Fellows except voting. Honorary members shall have the privilege of a seat at the Annual Meeting, and of taking part in the discussions; but they shall not vote on any question, nor be eligible to any office.

SEC. 3. Any member of the Society who shall make, vend, or publicly recommend, or who is directly or indirectly interested in the manufacture, use, or sale of any nostrum or patent medicine, shall not be eligible to any office, and is liable to be suspended from the privileges of the Society, or to expulsion.

SEC. 4. No member of the Society shall hold professional consultation or intercourse with any other than licensed physicians and surgeons in regular standing.

SEC. 5. It shall be the duty of every member of this Society to accuse any other member of the Society for such misdemeanors as he deems contrary either to the By-Laws, Medical Police, or Rules and Regulations adopted by the Society; and the accuser shall proceed in the manner directed in chapter iv, sec. 7, of By-Laws.

The privileges and obligations of membership revert to a regular physician on returning to the State.

CHAPTER VI.

Elections.

SECTION 1. All elections of officers of the Society shall be at the Annual Meeting of the President and Fellows, and by ballot; and a majority of votes shall be requisite to elect.

SEC. 2. Before the President and Fellows proceed to ballot, the Committee on Nominations shall present a list of candidates for the several officers to be elected; and, an opportunity having been given to the members to make other nominations, the Society shall then be called to ballot; if no election is obtained on the first canvass, the two highest shall be candidates for the next balloting. When a choice is made, the persons chosen shall hold their office during one year, and until others shall be elected.

SEC. 3. The Nominating Committee shall report names for delegates to the American Medical Association, and to corresponding Societies, and shall also nominate a Committee of Arrangements, whose duty it shall be to provide convenient accommodations for the next annual convention, and an Anniversary Chairman, who shall preside at the dinner of the next year. The Anniversary Chairman shall be one of the Committee of Arrangements.

CHAPTER VII.

SECTION 1. The Society adopts the Code of Ethics of the American Medical Association as a part of its Constitution and By-Laws.

SEC. 2. No article of the By-Laws, as now adopted, shall be altered or amended, except the subject proposed shall have been submitted in writing to the consideration of the President and Fellows at a previous annual meeting; and a vote of two-thirds of the members present in that body shall be necessary to ratify and confirm any amendment. But any By-Law may be suspended by a two-thirds vote.

SEC. 3. On the day of the annual convention, a dinner shall be provided, at the expense of those members partaking of it. Delegates from other Societies shall be provided for under the direction of the Committee of Arrangements. An invitation to this dinner may be given to such eminent persons as the President of the Society, or Anniversary Chairman, shall think proper to notice in this manner.

CHAPTER VIII.

Honorary Degrees and Honorary Membership.

SECTION 1. No member of this Society shall be recom-

mended to the President and Fellows of Yale College for the honorary degree of Doctor of Medicine until such member shall have been in the practice of medicine for a period of twenty-five years at least, and no more than one shall be recommended from this State in any one year, and such degree shall be conferred solely on the ground of distinguished merit and honor of the individual. Adopted in 1856.

Sec. 2. The names of candidates for the honorary degree of Doctor of Medicine and honorary membership shall be published in the Proceedings of the Society, and not be acted upon for one year subsequent to the time such nominations are made. Passed May, 1860.



DUTIES OF THE PUBLICATION COMMITTEE.

It shall be the duty of the Publication Committee to print, as soon as practicable after each annual meeting, a report of the Proceedings.

This shall contain the Secretary's report of the business transacted, the papers presented, a list of members, and such other material as may properly be placed in such a publication. All remarks made in the discussion of any scientific subject may be committed to writing by the person making them, either before or immediately after they are made and given to the Committee of Publication. The Secretary at the expense of the Society shall provide suitable tablets for this purpose. In the compilation of the Proceedings the papers shall be arranged in the following order: The Secretary's report, the President's Address, the Dissertations, papers by members presented at the request of the Society, papers recommended for publication by the County Meetings, voluntary papers, obituary notices of deceased members.

Should the papers presented exceed suitable limits for publication the Committee is authorized and directed to omit such as they consider of the least value. In cases of doubt the Committee are authorized to use the order in which the pa-

pers are named above as the order of preference. No paper shall be printed which has been published elsewhere. A printed copy of the Proceedings shall be sent to each member of the Society, except to those who are in arrears two or more years for dues.

The Committee shall forward to the author of each published article twenty-five reprints of his paper, when such are requested.

Reprints of obituary sketches shall be sent, bound in proper form, in such numbers as may be desired, to the families of deceased members.

The Yale Medical School shall be allowed, free of expense, the use of two pages for advertising purposes.

Other proper medical or surgical advertisements may be inserted, a suitable charge being made for their admission.



ORDER OF EXERCISES.

Report of the Committee on Credentials.

Address to the Fellows by the President.

Report of the Committee on Unfinished Business.

Report of the Committee on Business.

Reports of Special Committees.

Introduction of New Business.

Report of the Treasurer.

Report of the Committee on County Resolves.

Report of Nominating Committee.

Election of Officers and Delegates.

Report of Committee to Nominate Essayists on the Progress of Medicine and Surgery.

Report of Committee on Honorary Members and Degrees.

Reports of Standing Committees.

Report of Auditing Committee.

Miscellaneous Business.

PRECEDENCE OF MOTIONS IN ORDER.

WHEN A QUESTION IS UNDER DEBATE.

[CUSHING.]

1. To adjourn.
 2. To lay on the table.
 3. The previous question.
 4. To postpone to a day certain.
 5. To commit.
 6. To amend.
 7. To postpone indefinitely.
 8. The main question.
-

REPORTS OF COMMITTEES.

HOW TO DISPOSE OF THEM.

When a committee is ready to report, the *first question* is whether the assembly will *receive* the report.

If the assembly, either by formal vote, or by tacit consent, permits a report to be read, the report, by such permission, is *received*, and goes to the Clerk for his files—that is to say, lies on the table.

The committee, by reading the report is dissolved and *discharged*, and cannot act again without new power from the assembly.

The report having been received, as above indicated, lies on the table, and the matter may end at this point without further action being taken or a word said.

But if the assembly wishes to discuss, or take action on any part or the whole of a report it can do so as soon as the report is read, or at any subsequent time, upon motion properly seconded. Whenever a report, or any part of it is thus taken

up, it may be treated and disposed of precisely as any other proposition,—it may be allowed to stand as it came from the committee, or it may be amended in its statement, reasons, opinion, or in its resolutions or other propositions, if it contain such—any portion being taken separately, several portions together, or the whole at once.

In whatever way the report be treated, the final question on any portion, or the whole, as the case may be, is on acceptance, and “*when accepted it is adopted*” (Cushing, p. 151, §295) by the assembly, and becomes the statement, reasoning, opinion, resolution, or other act, as the case may be, of the assembly, the same as it would have been had it originated in the assembly itself without the intervention of a committee.

(Though the question may be properly put on acceptance of a statement of facts, reasoning, or opinion; on agreeing to resolutions or other similar propositions; on adopting the order, or on passing and coming to the vote recommended, etc.; all these phrases are only equivalent to acceptance, which comprehends them all.)

The points then always to be remembered are, that a report is received by being allowed to be read; and that the whole, or any part of it, when accepted is adopted and should be so entered in the Proceedings.

If the above exposition, strictly in accordance with Cushing and correct parliamentary usage, were constantly kept in mind by presiding officers, the deliberations of our Societies would be greatly facilitated and much confusion avoided.

A motion was made and adopted that the time limitation of four years should not apply to the present Secretary.



Dr. Russell brought in from the Nominating Committee this list of Officers and Delegates:

For President.

Cyrus B. Newton.

For Vice President.

Francis D. Edgerton.

For Treasurer.

W. W. Knight.

For Secretary.

N. E. Wordin.

Committee on Matters of Professional Interest in the State.

John G. Stanton.

Walter H. Holmes,

James B. Gregory.

To Nominate Physician to the Retreat for the Insane.

R. W. Mathewson,

Francis L. Dickinson.

Committee on Legislation.

M. Storrs,

Francis Bacon,

L. S. Paddock,

E. F. Parsons,

N. E. Wordin.

Committee on Publication.

N. E. Wordin, *ex officio*,

Robert Lauder,

C. D. Alton.

Dissertator.

Francis J. Young.

Alternate.

E. B. Lyon.

For Delegates to the American Medical Association.

M. Storrs,

M. C. White,

W. A. M. Wainwright,

L. T. Day,

W. S. Munger,

H. E. Smith,

R. S. Goodwin,

C. E. Park,

J. B. Kent,

J. P. C. Foster.

For Delegates to the Maine State Medical Association.

F. M. Wilson,

P. H. Ingalls.

For Delegates to the New Hampshire State Medical Society.

F. B. Tuttle,

W. S. Russell.

For Delegates to the Vermont State Medical Society.

H. G. Howe,

W. H. Carmalt.

For Delegates to the Massachusetts State Medical Society.

M. V. B. Dunham,

M. C. Hazen.

For Delegates to the Rhode Island State Medical Society.

H. Fleischner,

John F. Luby.

For Delegates to the New York State Medical Association.

O. J. D. Hughes,

Francis Bacon.

For Delegates to the Medical Society of New Jersey.

Francis J. Young,

I. W. Lyon.

The Secretary was instructed to cast a ballot for the gentlemen named, and they were unanimously elected.

On motion of Dr. White, the Delegates were empowered to appoint substitutes and to apply to the Secretary for credentials.

Dr. Alton presented the

REPORT OF THE COMMITTEE ON PUBLICATION.

The published report of the Society's proceedings for 1891 contains three hundred and forty-six pages, an increase of twenty-five pages over that of 1890, one hundred and six pages larger than in 1888, and being nearly twice as large as the issue for 1884.

Your Committee followed the order suggested and approved in 1890, and it is believed to be natural and convenient and an improvement on earlier arrangements.

The place of honor is given the President's valued and much quoted address, and after this the Dissertation. The essays presented are then divided into three groups of surgical, medical and special articles, the first having at its head the address on the progress of Surgery, the second is led by the address on the progress of Medicine, the report of the Committee on Matters of Professional Interest closing this part of the Proceedings.

By this grouping, papers and their kindred are easily referred to.

The fact that it took forty-six pages to record the Society's business proceedings last year would seem to indicate not only a growing interest but a need of the longer session.

Some of the papers were received from the writers too late for the joint attention of the Committee and consequently threw a greater burden on the Secretary. It may not be beyond our province to suggest a greater promptness in this particular and at the same time a more careful personal revision of a paper before submitting it to the Committee for criticism and correction.

The great burden of responsibility placed upon the Committee is the consideration of papers of least value and which may be omitted from publication, and in the light of so much medical literature presented for the perusal of the profession the meed of actual worth should be the only claim for admission, for we feel, with every member of this body, a just pride that the printed page which exposes to the world the scientific attainments and literary intelligence of the Connecticut Medical Society at the close of its first centenary shall not cause us a loss of respect by comparison with the strong societies that surround our State.

Acting for the whole Society on the one hand and anxious to guard the sensibilities of the weakest member on the other, the delicacy of our position is apparent.

Measurably forgetful that the purpose of the printed report is for the preservation of original observation and experience, or a compilation of that which is newest and best in lines of present or of common interest, there are sometimes presented articles lacking these essential characters. Text-book quotations are substituted for originality; a doubtful advertisement lurks in the rounded periods of some readable essay; personalities mar the dignity of the scientific paper and expose to adverse criticism the author's weakness.

The first may need only a careful resection; the second apparently nothing less than a capital amputation; while a little kindly plastic surgery may so change the features of the third that the good stands out unhindered by its former defects.

To secure the approval of the Society and at the same time

give no wounds it cannot heal, is the arduous task of the Committee.

Looking backward over the former publications of this Society a line of growth and improvement may be noted in form and arrangement, and, by no means least, a more general elevation of quality, in possible contrast with the sporadic scintillations that, in former years, rose above the bulk of the contributions, and we who have stood by at the close of the century feel some sense of satisfaction that the volume issued on the eve of the Society's Centennial falls, in no particular, behind its predecessors, but has pressed further to the front with the inherited spirit of progress and improvement.

CHARLES D. ALTON,

C. S. RODMAN,

N. E. WORDIN,

Publication Committee.

Dr. Young, for the Committee to Nominate Essayists on the Progress of Medicine and Surgery, reported Dr. Thomas H. Russell for Surgery, and Dr. William L. Platt for Medicine.

The report was adopted.

Dr. Storrs, Chairman of the Committee on Legislation, reported that the Medical Practice Act was in good form, awaiting the meeting of the Legislature. No progress had been made by the Committee because there had been no opportunity for any action upon it. The report was received as a report of progress.

Sir Joseph Lister of London, Dr. E. G. Janeway of New York and Dr. Edward R. Squibb of Brooklyn were elected Honorary Members.

Dr. Tuttle reported that he had, as a member of the Auditing Committee, examined the vouchers of the Treasurer and found his report correct. Whereupon the report of the Treasurer was accepted.

The Treasurer read a list of names presented to him by County Clerks with certificate of the Counties' abatement of taxes, and it was voted that the following members be exempt from taxation :

David M. Webb, Madison.

Hull Allen, Milford.
A. C. Churchill, Meriden.
John C. Bolles, Montville.
James R. Fuller, New London.
W. P. Barber, Colchester.

Dr. Edgerton presented the

REPORT OF THE COMMITTEE TO CONSIDER THE RECOMMENDATIONS OF THE PRESIDENT

in his annual address.

Your Committee appointed to consider the recommendations of the President in his address, report the following resolutions:

First—That the Committee on Medical Legislation be continued with the same powers.

Second—That the Connecticut Medical Society heartily commends the objects of the proposed Pan-American Medical Congress and that Dr. C. A. Lindsley, Dr. N. E. Wordin and Dr. W. A. M. Wainwright shall constitute a committee to coöperate with its officers.

Third—That the Connecticut Medical Society hereby endorses the Bill for the establishment of a Department of Public Health, which has been presented to Congress, and directs the Secretary to convey this resolution to the several members of Congress from this State.

Fourth—That the Secretary's salary be increased to one hundred dollars.

F. D. EDGERTON,
M. M. JOHNSON,
HERBERT E. SMITH.

The resolutions were adopted.

It was voted to print one thousand copies of the Proceedings, to publish the By-Laws, and to lay a tax of two dollars.

An amendment was made that the Proceedings be bound in cloth. The amendment and the motion in its entirety were adopted, after division of the question.

Dr. White moved that if any further business should be found necessary before the close of the Convention the President is hereby authorized to call a meeting of the Fellows.

The meeting of the President and Fellows then adjourned to meet in Hartford on the 24th day of May, 1893.

N. E. WORDIN, Secretary.

THE ANNUAL CONVENTION.

WEDNESDAY, MAY 25, 1892.

The mass meeting was called to order in the audience room of Dwight Hall, shortly after twelve o'clock, by the President, Dr. Lindsley. Dr. Russell was announced and he read a carefully prepared paper on The Early Physicians and ye State of Medicine in Connecticut previous to 1792.

THURSDAY, May 26, 1892.

The meeting was called to order by the President at 10 A. M. The Secretary read his

ANNUAL REPORT.

The Secretary deems himself fortunate in holding his office during this year which marks the rounding of the century of the Society's life. Although it brings to him added burdens, increased duties, greater responsibilities, it also presents prominently our stability, our success, the probability of our future continuance, with the good we may bring to our fellow citizens and the State. The year 1792 was not only the beginning of the Connecticut Medical Society, but also of most of the Associations from which it is formed. The Hartford, New London, Fairfield, Middlesex and Tolland County Associations had their origin one hundred years ago, while the New Haven and Litchfield County Associations are older.

The Fairfield County Association successfully celebrated its centenary three weeks ago. Hartford County is to follow in September next. If others are to do the same, it has not yet been announced. I would like to offer a word of encouragement to the members to make the most of these landmarks.

They show plainly the progress our art is making. They preserve the history of the past. They offer encouragement to the profession in younger States ; they unite more firmly the members of our own. The Fairfield County Association has preserved the history of its centennial in a neat pamphlet containing the historical addresses and the speeches made at the banquet board, with portraits of some of its Presidents. It has therefore recommended to us no papers for publication this year. Middlesex and Litchfield Counties send us for to-day historical sketches.

The large amount of literary work offered by the Presidents of the various Sections has had its effect upon the work of the County organizations, so that there are but seven papers recommended by them for publication—which will make the work of the Committee on Publication much easier than usual. Of these Sections, that on Surgery presents for our consideration sixteen papers, all of them upon different topics ; that of Hygiene and the Practice of Medicine, thirteen, which are classified under general headings ; that of Obstetrics, Gynecology and Diseases of Children, thirteen, while there are fifteen in the Section on Materia Medica, Therapeutics and Chemistry—fifty-seven in all. May I venture the suggestion that in the light of our past experience, with the difficulty felt heretofore by writers in gaining an audience at our meetings, and the growth of our Society to five hundred members, it might be well to take a new start from this one hundredth year and have at every annual gathering two or three Sections meeting at the same time, which should give to every member who desires to write, an opportunity to read what he has prepared to a larger audience than a simple county gathering can afford him.

Dr. White, who has been Secretary of this Society for twelve successive years, has given us the benefit of his experience by carefully compiling the By-Laws, which have not been published since 1883. With their appearance in printed form the requirements of County Clerks and of individual members will become better understood and the Secretary, it is hoped, will be hereafter saved many annoyances and much delay which may have attended his work for the past years.

Dr. J. B. Lewis of Hartford, with a fondness for research and the conveniences for it which but few possess, has with careful detail prepared a list of the full names of every one who has been connected with the Society since its formation, 2,700 in all. The magnitude of the work may be imagined when we have the fact that it occupies one hundred and twenty-five pages. In addition he has made an Index, showing the title of every paper read, of every report made and of every obituary prepared—in all one hundred and ninety-one pages of twenty-five lines to the page. This has been a labor of love with him, of which the Society will receive the benefit. The whole when printed, as requested by the Centennial Committee, will comprise one hundred and twenty-five pages and will appear in the latter part of our centennial volume.

Our present membership is five hundred and twenty-four, a net gain of seventeen over the number given in last year's Proceedings.

Of these Hartford	has 118, net gain of 1.
“ New Haven	“ 146 “ “ “ 11.
“ New London	“ 43 “ “ “ 2.
“ Fairfield	“ 97 “ “ “ 5.
“ Windham	“ 35 “ loss “ 1.
“ Litchfield	“ 33 “ “ “ 2.
“ Middlesex	“ 35 “ “ “ 1.
“ Tolland	“ 17 “ gain “ 2.

524, net gain of 17.

The gain has been almost entirely from new members, although two former members have been reinstated and one or two have returned to the State. The marked difference between the eastern and western sections of the State is at once noticed, both in the aggregate membership and the changes therein.

It is an encouraging thing to find that the losses are not so many as formerly, either by removal from the State or by failure to pay dues. It seems as if those who were too indifferent to pay the small assessment annually laid for the support of the Society had nearly all dropped off from it.

The deaths have been in Hartford County, 3; R. H. Tiffany, J. H. McNamara, S. W. Hart: New Haven, 3; Levi Ives, Nehemiah Banks, Anna L. Smith: New London, 1; W. P. Barber: Fairfield, 3; Charles W. Sheffrey, Samuel Sands, M. H. Wakeman: Windham, 1; John H. Simmons: Litchfield, 3; William Deming, John B. Derrickson, Harmon W. Shove: Middlesex, 2; Joseph W. Alsop, Rufus Baker; sixteen in all.

The list of new members, with residence, date and place of graduation is:

Ida Rachel Gridley, Boston, College Physicians and Surgeons, 1889, Collinsville.

Arthur Wayland Howard, University New York, 1891, Wethersfield.

Arnold Eberg, Dartmouth, 1886, Simsbury.

Samuel Wellington Irving, Yale, 1891, New Britain.

John F. Dowling, Long Island Medical College, 1890, Thompsonville.

Rollin McNeil, Yale, 1862, New Haven.

Edward M. McCabe, Yale, 1887, New Haven.

James M. Reilly, Yale, 1878, New Haven.

Clarence E. Skinner, Yale, 1891, New Haven.

Edward W. Warren, Harvard, 1883, Ansonia.

Thomas M. Bull, College Physicians and Surgeons, New York, 1887, Naugatuck.

Benjamin A. Cheney, Yale, 1890, New Haven.

Charles A. Tuttle, Yale, 1890, New Haven.

Harvey A. Elcock, Yale, 1891, New Haven.

Louis J. Gaynor, University New York, 1891, New Haven.

Harry B. Ferris, Yale, 1887, New Haven.

A. W. Marsh, University Vermont, 1882, Westville.

A. S. Houghton, College Physicians and Surgeons, 1880, Seymour.

Robert J. Barry, College Physicians and Surgeons, 1890, Birmingham.

Frederic Spring, University New York, 1885, Naugatuck.

Nicholas J. Hanlon, Dartmouth, 1890, Waterbury.

James W. Robbins, Bellevue, 1880, Naugatuck.

William Fairbanks, Bellevue, 1891, Norwich.

- Joseph B. Crofton, College Physicians and Surgeons, 1878, New London.
- Merritt S. Ferguson, University Vermont, 1875, New London.
- A. J. Cughton, College Physicians and Surgeons, Baltimore, 1891, Colchester.
- Charles H. Perkins, College Physicians and Surgeons, New York, 1891, Norwich.
- Frank L. Smith, Albany Medical College, 1883, Bridgeport.
- W. C. Brownson, University New York, 1878, New Canaan.
- George R. Hawley, Long Island College Hospital, 1892, Danbury.
- Junius F. Smith, Long Island College Hospital, 1890, Brookfield.
- George E. Ober, University Vermont, 1890, Bridgeport.
- F. H. Schavoir, College Physicians and Surgeons, Baltimore, 1887, Stamford.
- William A. B. Treadway, University Michigan, 1883, Stamford.
- F. P. Rulund, College Physicians and Surgeons, New York, 1889, Westport.
- Lawrence S. Buckley, Dartmouth, 1890, Stamford.
- F. P. Rogers, University Pennsylvania, 1873, Stamford.
- C. S. Darby, Jr., University New York, 1889, Stamford.
- E. J. Meeks, Bellevue, 1890, Stamford.
- John L. Buel, Physicians and Surgeons, New York, 1888, Litchfield.
- William S. McLaren, Physicians and Surgeons, New York, 1889, Litchfield.
- Edward Robinson Baldwin, Yale, 1890, Cromwell.
- A. Josephine Sherman, Woman's Medical College of New York, Infirmary, 1890, Middletown.
- Timothy C. A. Lawlor, Bellevue, 1892, Rockville.

An analysis of these returns is also encouraging, for of the forty-five graduates coming into our number, ten are from Yale—a good proportion—showing the advance that foremost institution of our State is making, whose kindness receives us within her hospitable walls this day. No other medical college is so largely represented, the Physicians and Surgeons of New York standing next, with nine.

A century ago the membership of the Society the year after

its organization was three hundred and nine. Litchfield was the banner county, having fifty-one members; Hartford, the second, with forty-eight; Fairfield, the third, with forty-six; Tolland, the smallest, with twenty.

When the century had half gone he who addressed us yesterday was Clerk of the Hartford County Association. In fifty years the numbers had increased less than one hundred, being four hundred and one, an aggregate increase of less than two per annum. Litchfield had lost her ascendancy and Hartford largely led, numbering eighty-two; New Haven stood second with sixty-seven, followed closely by New London with sixty-one. To-day we are five hundred and fifty-two, a difference of one hundred and twenty-four.

Of those who have died during the year four would have been members for fifty years had they lived until to-day—Doctors Levi Ives, Isaac G. Porter, S. W. Hart and John H. Simmons.

We have on our roll to-day thirteen members who can boast of a continuous service of fifty years: Gurdon W. Russell, David Crary, P. W. Ellsworth, Ashbel W. Barrows, Jeremiah Burwell, Hull Allen, Henry Bronson, R. W. Mathewson, Elisha Phinney, John C. Bolles, A. L. Williams, W. W. Welch, Francis L. Dickinson, names venerable and renowned among us. May they long continue to give unto us of their wisdom and we to emulate their virtues.

The report was accepted.

Delegates from sister Societies were next called for. The first to respond was Dr. Herbert F. Twitchell of Freeport, Maine, who spoke in a very happy vein, saying: "The Maine Medical Association sends greeting and we expect you to reciprocate. I am being delightfully entertained and shall feel a responsibility for entertaining those whom you may send to us. We are in rather a peculiar condition in Maine. I would like some of the punch I had last night to take to Maine as a pharmaceutical curiosity. Connecticut punch is good as a hypnotic. It beats spring water at any rate. If you will send us a Delegate at our next meeting I shall think that I have performed a satisfactory journey. We are only twenty-

nine years old and not competent to give advice to you of a century. Besides, a Maine Yankee thinks himself at a discount at this seat of learning and scientific foot-ball.

"Dr. Holmes has said some people prefer their physicians, like cheese, a little moldy. We can't help having respect for those of older years, and although your Society is entering upon its second hundred years I see no symptoms of the menopause."

Dr. William H. Bailey of Albany responded for New York State Medical Society. "Our Society sends greeting to the Medical Society of the State of Connecticut. I am happy to know of your progress and your age. We look to you here in this University seat for an example of learning. We know indeed of your progress and look over your annual Proceedings with interest.

"Our Society, although not much larger in numbers, exceeds yours in attendance. We have a session of three days. We begin promptly at the time announced. The meeting is called to order as soon as the mallet goes down. We have three kinds of members—delegates, permanent and honorary members. The delegates are elected by ballot, one hundred and forty in all. The honorary members are something more than two hundred. They are not expected to attend the meetings. The distinguished physicians we seldom see. Our requirements are that every person to become a permanent member must attend two meetings and be a member of his County Society. He pays five dollars as an initiation fee and five dollars after. A member proposing another physician for member must bring five dollars for the applicant or the applicant can't register. If he doesn't register he cannot vote. Our Society is a State Society. The State used to publish our Transactions as it does the annual reports of its various institutions. Now we publish them ourselves and make an annual report to the State.

"We are trying to raise our standard of education. We have a state Examining Board, but we had great difficulty in obtaining it. I was on the Committee and wanted to raise the standard. I found appearing before the Committee a throng of those who would lower the standard—all sorts of

isms. As a result, we have three kinds of practice—allopathic, homeopathic, eclectic—each having its own representatives on the Examining Board, comprising seven. The way the Board is made is: Each of the three Medical Societies nominates fourteen of its members. The Regents of the State select seven from this number. They meet and organize. The standard of examination is the same with all, excepting that in *Materia Medica*, *Therapeutics* and *Theory and Practice*, each one of the three Societies adopts its own methods. We don't care what school a man belongs to if only he is qualified to practice. 'We can't *make* skillful men. Doctors are born, not made.

"Our Society is progressive. Our meetings are well attended. We are trying work in Sections, as you are now. It hasn't worked well with us. A man in general practice wants to hear papers on all parts; he wants to hear the work of the specialists. We keep every one working. We have a time limit; we designate the time for papers and we keep within the limit.

"I am much delighted with my visit. I made a mistake in the time, owing to an error of the *Medical Record*. I came a day too soon and got into your executive session. I thought your gathering was small, but soon found my error.

"I don't think you are in your dotage. You are bright and up to the times. I have enjoyed the papers I have heard. I render thanks for your kindness."

Dr. William T. Smith of Hanover responded for the New Hampshire Medical Society. "I have the honor and pride of representing the State Society of New Hampshire. We had our centennial a year ago. I represent therefore an institution a trifle more moldy than the one before which I stand. There are peculiar ties binding these States which here come together. The people of Connecticut, looking up the valley of the long river, heard of the fertility there; stories which were not exaggerated if I may judge by the beautiful scenes through which I rode on my way hither. These pioneer settlers took with them Connecticut blood, Connecticut politics, Connecticut names. We have Lyme and Lebanon, Windsor and Woodstock, Plainfield and Plymouth, Meriden and Mil-

ford. The ground where we meet suggests another tie which binds us. In 1770 Eleazer Wheelock took his Indian school from your town of Lebanon and starting northward in the wilderness of New Hampshire he founded Dartmouth College. New Hampshire later reciprocated and sent to you Nathan Smith, who, it may be said, founded your Medical School as well as ours. But there is one difference between these two States. I have been told of a way of estimating the number of square miles in Connecticut. It is to find the number of square miles in a certain area, then cutting as many similar pieces out of the map of the State, a simple process of multiplication gives the result. This would never do for New Hampshire, for many of our square miles stand on end and the estimate would be at fault. But whether valleys, mountains or plains, may we ever be united in one purpose for the elevation of our science and profession."

Dr. P. A. Stackpole of Dover, an Honorary Member, being called upon, said he was not a delegate. He had come down to enjoy the gathering of the brethren. He met our delegates at the New Hampshire centennial last year and was at that time interested in what they had to say. We are getting along well as a Society and enjoy our meetings.

Dr. James R. Chadwick of Boston was called upon. He replied that he was not a delegate. He had brought with him some letters of the first practitioner of this State, John Winthrop, Jr. In the first letter, sent to a Mr. Odell, he writes instructions how to treat a child which had fits. There were twenty-two other letters addressed to Mr. Winthrop, asking advice in cases of sickness. The Governor practiced mostly at Pequot and New London.

[These letters, with a portrait of Governor Winthrop, were carefully bound, and furnished an interesting and valuable souvenir on this historic occasion.]

Dr. Amos H. Johnson of Salem, President of the Massachusetts Medical Society, responded to a call for that State. "The Massachusetts Medical Society annually sends delegates to express its union with you in spirit. Yours have come, likewise to us. To-day we come together as aged friends. The memory sees more than the eye. When centenarians meet,

silence is better than words. Eleven years ago the Massachusetts Medical Society reached its one hundredth birthday. She sends you to-day the congratulations of her more than seventeen hundred members, showing ever increasing vigor and strength. There are given to us both encouragements for maintaining our honor and usefulness."

No more delegates or guests being present, the President, Dr. Lindsley, gave greeting appropriately:

Delegates and Guests:

We bid you hearty and cordial welcome. We desire to make your visit as pleasant and profitable as we can. If we fall short in our attempt, attribute it to the fact that we have had no experience in Centennials. Next time we will try to treat you better. We invite you to take part in all our exercises, both literary and social, as freely as you would in your own Society. We bid you cordial welcome.

An intermission was now taken until the hour of eleven, when, the hall being well filled, Dr. Bacon delivered an address on The History of the Connecticut Medical Society.

It was immediately followed by the President's Address, The beginning and growth of Sanitary Legislation in Connecticut.

FRIDAY, MAY 27, 1892.

The Convention assembled at 10 A. M. A motion was passed that we hear reports from delegates to other Societies, which were omitted yesterday. Dr. Parsons, one of the delegates to New Hampshire, replied :

Mr. President, Ladies and Gentlemen of the Connecticut Medical Society :

Your Committee, composed of Dr. J. F. Calef of Middletown and myself, strongly reinforced by President Lindsley of New Haven and Ex-President Storrs of Hartford, proceeded on the 15th of June last to attend the one hundredth anniversary of the New Hampshire Medical Society at Concord, the capital of the State.

The convention was in session when we arrived and gave us a hearty welcome, one worthy the honor and dignity of the organization we were commissioned to represent.

We tendered to them your fraternal greetings and congratulated them on their past glorious history and present prosperity.

We witnessed much that was worthy of commendation. The papers presented were scholarly and abreast with the times. One of the first impressions received was the conspicuous position the female members of the Society sustained. The first paper we heard was upon a gynecological subject by Dr. Ellen A. Wallace of Manchester, and the discussion was led by Dr. Ella Blaylock of Nashua, and both were attentively listened to.

The Society and guests were delightfully entertained socially the first evening at the residence of Mrs. J. Wallace Russell, M.D., a lady of extensive practice in Concord, and one of the most spirited addresses at the banquet the next evening was by Dr. Mary A. Smith, a guest from Boston. We learned that the New Hampshire Society was the pioneer in the admission of women to its membership. The position maintained and the honors carried by them indicate that they were worthy of this progressive step and that the Society did itself honor in setting other Societies this example.

We were forcibly impressed by the long and notable list of past and present worthies who have made the history of the Society distinguished in the annals of the State. Their pluck, ambition and indomitable perseverance in the face of obstacles most discouraging in establishing Dartmouth Medical College, as well as a high standard of medical scholarship throughout the State, gives them a rightful position alongside of those other names, noted in military and legislative affairs, which have given New Hampshire special honor throughout the Nation.

But the strongest impression made during our visit was by the lavish, natural and wholesome hospitality, with which the social entertainments were prepared. We were made at home everywhere. No painstaking in our behalf seemed too great. The excursion to Lake Winnipiseogee, twenty-five miles from

Concord, including the delightful ride of a dozen miles on its placid surface amid the beautiful hills in the heart of New Hampshire's rugged landscape, was certainly a beautiful conception and well executed, and proved most opportune, as the weather during that week was exceptionally hot. It was a delicious entree in the midst of a feast of delightful experiences and a trip never to be forgotten.

The doctors of New Hampshire are as sturdy as the hills among which they live and toil and their hospitality as refreshing as the cool breezes which fan the waters of this gem of New England lakes on a hot summer's day.

Our visit was a solace and an inspiration. On leaving we invited our hosts to come to New Haven and assist us in celebrating our anticipated centennial and allow us to reciprocate their kindly attentions.

His report was referred to the Committee on Publication.

Dr. G. L. Porter replied, when called upon, that he was detained and not able to go to the meeting of the New York Association.

The Report on the Progress of Medicine was the next thing upon the program. Dr. Eliot stated that so much had been given and so fully in the medical journals during the year, which was in possession of all, that he had thought best to depart from the usual custom of the Society and give a résumé of the Treatment of Typhoid Fever.

This paper called out considerable discussion by Dr. G. W. Russell, Dr. E. F. Parsons, Dr. O. T. Osborne and others. This was cut short by the lateness of the hour, and Dr. Hoadly was called upon to read his paper, Some Early Post-Mortem Examinations in New England. At its conclusion Dr. Russell remarked that the paper established clearly the post-mortem examination of Kelly's child, not from unreliable statements, like those of Cotton Mather, but from fully authenticated sources. We should all feel much obliged to Dr. Hoadly for his paper. He moved that the thanks of the Society be given to Dr. Hoadly and a copy of the paper be requested for publication. This was passed.

Dr. Russell offered a resolution that the thanks of this So-

ciety be extended for the very excellent order of arrangements of the week, and especially to the physicians of New Haven for the very superior excellence with which we have all been received. No other meeting of this Society, nor of any other, has ever been held fuller of enjoyment in the present or giving better promise for the future.

Dr. Parsons wanted an especial vote of thanks to the New Haven City Association for the delightful ride around East Rock Park, and the resolution as thus amended was adopted.

A resolution was also passed expressing thanks to the Corporation of Yale University for the use of the very delightful rooms for the meetings.

At 12 o'clock Dr. Edgerton read the Dissertation, Intubation of the Larynx.

A vote of thanks was passed, with reference of the paper and all others upon the program, to the Committee on Publication.

A Committee consisting of Dr. C. A. Lindsley and the Secretary was appointed to transfer the Library of the Society to the Free Library of New Haven, in accordance with vote taken on Wednesday.

A motion was made and adopted that Dr. White be a Committee to see to cataloguing the Archives, the expense to be left to the discretion of the Committee.

A motion was passed of thanks to Dr. J. B. Lewis for his list of names and index of subjects, with a request for their publication. Dr. Lewis was authorized to add such information as he may further obtain.

A vote of thanks was also given Dr. Sumner for his labors in preparing his list of members.

The Convention then adjourned to meet the fourth Thursday in May, 1893, at Hartford.

The Sections, as arranged for by the Centennial Committee, met during the afternoons of Wednesday, Thursday and Friday in the rooms assigned and read and discussed the papers upon the program under the direction of their Chairmen.

SECTION OF SURGERY.

President—M. STORRS.

Vice Presidents—L. B. ALMY, T. H. RUSSELL.

Secretary—DR. A. G. COOK.

Place of Meeting—Room of Class of '92.

Time—Wednesday, Thursday and Friday, 2:30 P. M.

PROGRAM.

Address of Chairman Surgical Section, A Century of Surgical Progress—Its Causative Conditions, Dr. M. Storrs.

Intestinal Obstruction—Its Diagnosis and Treatment, Dr. F. H. Wiggin, Litchfield. Discussed by Dr. H. S. Fuller, Dr. T. H. Russell, Dr. H. P. Geib.

Surgical Measures for the Relief of Acute Laryngeal Stenosis, Dr. H. Hungerford, Stamford.

The Surgical Treatment of Granular Lids, Dr. W. H. Ring, New Haven. Discussed by Dr. S. B. St. John.

The Operation for Stone in the Bladder—Shall it be the High or the Low? Dr. W. C. Wile, Danbury. Discussed by Dr. W. A. M. Wainwright, Dr. T. H. Russell.

A Practical Argument Against the Solvent Treatment of Stone in the Bladder by Mineral Spring Waters and Other Agents, Dr. T. H. Russell, New Haven. Discussion of paper to be opened by Prof. Carmalt.

The Progress of Ophthalmology During One Hundred Years, Dr. S. B. St. John, Hartford.

Enlargement of the Prostate Gland, Dr. Nathan Mayer, Hartford.

Treatment of Congenital Club-foot, Under Two Years of Age, Dr. A. G. Cook, Hartford.

The Early Treatment of Congenital Deformities, Dr. O. C. Smith, Hartford. Discussed by Dr. William Porter, Jr. and Dr. A. E. Abrams.

The Medico-Legal Aspects of Chloroform, Dr. W. A. M. Wainwright, Hartford. Discussed by Dr. George L. Porter and Dr. M. Storrs.

Pyoktanin, Dr. L. B. Almy, Norwich. Discussed by Dr. Robert T. Morris and Dr. F. B. Downs.

Observations on Syphilis, Dr. H. Fleischner, New Haven.

Dissection Wounds, Dr. Augustus A. Crane, Waterbury. Discussed by Dr. W. H. Carmalt and Dr. T. L. Axtelle.

Asthma—Its Intranasal Origin and Surgical Treatment, Dr. H. L. Swain, New Haven.

One Hundred Years of Dental and Oral Surgery, Dr. George L. Parmele, Hartford.

Papers from County Associations.

Opacities of the Cornea, Dr. C. S. Rodman, Waterbury.

Disease of the Mastoid Process, Dr. C. E. Munger, Waterbury.

SECTION OF THE PRACTICE OF MEDICINE AND HYGIENE.

President—G. L. PORTER.

Vice Presidents—GUSTAVUS ELIOT, CHARLES C. GODFREY.

Secretary—DR. J. W. WRIGHT.

Place of Meeting—Room of Class of '93.

Time—Wednesday, Thursday and Friday, 2:30 P. M.

PROGRAM.

Address of Chairman of Section, The Beginning and Development of Scientific Medicine Previous to the Nineteenth Century, Dr. G. L. Porter, Bridgeport.

CONTAGIOUS DISEASES.

1. Paper by Dr. W. G. Daggett, New Haven.

2. Theories as to the Nature of Diphtheria and Modes of Treatment. Paper by Dr. J. F. Calef, Middletown.

Discussed by Dr. F. W. Wright, New Haven; Dr. H. Hungerford, Stamford; Dr. O. T. Osborne, New Haven.

TUBERCULOSIS.

1. Its History. Paper by Dr. L. S. DeForest, New Haven.
2. Its Recent Developments. Paper and illustrations by Dr. A. J. Wolff, Hartford.
3. Its Climatic Influences. Dr. W. C. Wile, Danbury.
4. Its Modern Medical and Hygienic Treatment. Papers by Dr. W. H. Holmes, Waterbury, and Dr. C. B. Conkey, Waterbury.

Discussed by Dr. J. B. Kent, Putnam, and Dr. E. F. Parsons, Thompsonville.

HYGIENE.

1. Camp Hygiene. *a.* Paper by L. B. Almy, Norwich.
b. Paper by C. C. Godfrey, Bridgeport. Discussed by Dr. LaPierre, Norwich.
2. School Hygiene. Paper by Dr. F. J. Young, Bridgeport.
3. House Hygiene. Paper by G. R. Shepherd, Hartford. Discussed by Dr. J. K. Mason, Suffield; Dr. Lewis Barnes, Oxford; Dr. L. S. Paddock, Norwich.
4. Heat and Ventilation of Public Institutions. Paper by Dr. F. A. Rice, Bridgeport. Discussed by Dr. G. W. Knight, Lakeville and Dr. G. Eliot, New Haven.

Papers from County Associations.

Public Hygiene, Dr. A. E. Winchell, New Haven.

Neurasthenia, Dr. William Porter, Jr., Hartford.

The Complications of Chronic Bright's Disease, Dr. C. J. Foote, New Haven.

La Grippe, Dr. P. H. Harriman, Norwich.

History of the Middlesex County Medical Association, Dr. Miner C. Hazen, Haddam.

Medical History of Litchfield County.

SECTION OF OBSTETRICS, GYNECOLOGY AND DISEASES OF CHILDREN.

President—JAMES CAMPBELL.

Vice Presidents—P. H. INGALLS, ROBERT LAUDER.

Secretary—DR. W. W. KNIGHT.

Place of Meeting—Room of Class of '94.

Time—Wednesday, Thursday and Friday, 2:30 P. M.

PROGRAM.

Address of Chairman, The History of Obstetrics and Diseases of Women and Children, Dr. J. Campbell.

Trachelorrhaphy, Dr. P. H. Ingalls. Discussed by Dr. F. E. Beckwith.

Pelvic Hematocele, Laparotomy, Recovery, Dr. Robert Lauder. Discussed by Dr. Godfrey, Dr. Bill and Dr. Porter.

School Life in its Relation to the Eyes, Dr. W. T. Bacon.

Pelvic Cellulitis, Dr. J. H. Townsend.

Flat Foot, Dr. A. G. Cook.

Disorders of the Nervous System Associated with the Menopause, Dr. Gustavus Eliot. Discussion by Dr. Barber, Waterbury, Dr. Hallock, Cromwell and Dr. Blodget, Bridgeport.

Duties and Responsibilities of the Modern Accoucheur, Dr. Parsons. Discussed by Dr. S. R. Burnap and Dr. E. J. McKnight.

Abdominal Diseases in Children, Dr. A. E. Abrams.

Electricity in Diseases of Women, Dr. J. E. Root. Discussed by Dr. G. C. Segur and Dr. C. E. Taft.

Diphtheria, Dr. M. M. Johnson. Discussed by Dr. A. G. Wolff and Dr. G. J. Holmes.

Thirty-two Cases of Intubation, Dr. H. Blodget, Bridgeport.

A Century's Progress in Psychiatry, Dr. H. P. Stearns.

From New Haven County Association.

Abortion, Dr. M. A. Cremin, New Haven, Dr. W. L. Barber, Waterbury.

SECTION OF MATERIA MEDICA, THERAPEUTICS AND CHEMISTRY.

President—R. S. GOODWIN of Thomaston.

Vice Presidents—C. J. FOX, O. BROWN.

Secretary—DR. W. L. BARBER of Waterbury.

Place of Meeting—Room of Class of '95.

Time—Wednesday, Thursday and Friday, 2:30 P. M.

PROGRAM.

Address by the Chairman, Characteristics of Modern Therapeutics, Dr. R. S. Goodwin.

The Materia Medica and Therapeutics of a Hundred Years Ago, Dr. Rufus W. Griswold.

The Petroleum Preparations—Their Therapeutic Uses in Nose and Throat Affections, Dr. Carl E. Munger.

The Alcoholic Question a Hundred Years Ago and To-day, Dr. T. D. Crothers. Discussed by Dr. O. Brown.

Koch's Tuberculin as a Means of Cure in Tuberculosis, Dr. C. B. Newton. Discussed by Dr. J. P. C. Foster, Dr. L. Platt and R. N. Chittenden, Ph.D., Professor of Physiological Chemistry, Yale University.

The Prophylaxis of Typhoid Fever, Dr. C. J. Foote. Discussed by Dr. C. A. Lindsley and Dr. F. W. Wright.

The Chemistry of the Ptomaines, Prof. H. E. Smith.

The History of Empiricism During the Last Century, Dr. H. S. Fuller. Discussed by Dr. A. J. Wolff.

Medication in Cardiac Disease, Dr. H. Fleischner.

Asthma, Dr. L. S. DeForest.

Opium, Dr. E. F. Parsons.

Chloroform, Dr. E. P. Swasey. Discussed by Dr. M. Storrs and Dr. M. M. Johnson.

The History of Therapeutics (particularly of the last century), Dr. F. J. Young.

The Action of Drugs Upon the Process of Nutrition, Dr. O. T. Osborne.

Recent Advances in the Legal and Educational Status of Pharmacy, Dr. J. H. Grannis.

At the Medical College, York Street, was the

SECTION OF MICROSCOPY,

under charge of Dr. M. C. White. Here were shown under microscopes Pathogenic Microbes and specimens Normal and Pathological, Histology, the work of the medical students. From three to five on Wednesday and Thursday afternoons Dr. White showed the method of making photographs, giving practical illustrations with the use of the Magic Lantern.

In the office of the Medical School was also an exhibition a rare and interesting collection of old books and appliance of various kinds connected with the early practice of medicine and surgery.

In the evening of Wednesday President C. A. Lindsley and Dr. J. H. Whittemore held brilliant receptions at their homes. These were well attended by members of the Society and by some of the prominent citizens of New Haven, and were enjoyed by all. Dr. Carmalt entertained members and guests with an elegant luncheon at his residence, No. 87 Elm street, on Thursday from 1 to 2:30. At 5 p. m. of the same day work in the Sections was stopped that all might enjoy a ride to East Rock Park. Conveyances were supplied for all by the New Haven Medical Association, and the magnificent views of river and bay, of wooded hill and fruitful vale, were so thoroughly enjoyed that they will long remain as a delightful remembrance of the Centennial of the Connecticut Medical Society.

At 8:30 of the same evening about two hundred members and guests sat down to a banquet at Warner Hall on Chapel Street. Music added its cheer to the festive occasion.

1792

1892

CENTENNIAL CONVENTION
NEW HAVEN, MAY 26.
CONNECTICUT MEDICAL ASSOCIATION.



INDEX CIBORUM.

Conchylia Promontorii Caerulei in testis dimidiatis.

Jus fervens lingua Gallica appellatum *Consomme*.

Salmonem elixum cum liquamine Hollandico.

Poma terrae Lutetiensia.

Cucumeres sectos cum condimento Gallico.

Costas verni agni assas cum jure menthaceo.

Pisa viridia.

Poma terrae minutatim concisa et crustata.

Spiritus Sacchari Indicum Occidentalem congelatum
Romanum.

Carnem pulli gallinacei in craticula tostam. Asparagum coctum

Moretum lactucae.

Fruges Lycopersici esculenti sectas (aliquando mala amatoria
appellatas) cum liquamine Mayonnico.

Fraga et florem lactis.

Florem lactis cum saccharo congelatum.

Dulcia.

Fructus.

Nuces.

Pastillos bis coctos et caseum.

Potum Brazilianum.

Folia Nicotiana convoluta.

Misce et Signa.

Liberaliter semel centum annis sumantur.

Aesculapius.

After the business of the Bill of Fare more trivial matters were attended to in the responses to the Toasts.

Dr. Bacon, Anniversary Chairman, presided with dignity and that

“Ease
Which marks security to please.”

Looking down upon the active scene in portrait from the walls were some of the founders and early members of the Society, not disapproving spectators.

Jared Eliot, M.D., portrait loaned by George Eliot of Clinton.

Thomas Hubbard, M.D., portrait loaned by Dr. R. H. Russell.

Levi Ives, 1st, M.D., portrait loaned by Mrs. Levi Ives.

Levi Ives, M.D., portrait loaned by Yale University.

N. B. Ives, M.D., portrait loaned by Mrs. Levi Ives.

Prof. Levi Ives, M.D., portrait loaned by Dr. R. S. Ives.

Prof. Nathan Smith, M.D., portrait loaned by Yale University.

D. P. Smith, M.D., portrait loaned by Yale University.

Prof. Jonathan Knight, M.D., portrait loaned by Yale University.

T. H. Beers, M.D., portrait loaned by Yale University.

Prof. Charles Hooker, M.D., portrait loaned by Yale University.

Prof. Benjamin Silliman 1st, portrait loaned by Yale University.

Pliny Jewett, M.D., portrait loaned by Yale University.

James Shelton, M.D., portrait loaned by Dr. G. A. Shelton.

Hull Allen, M.D., portrait loaned by his family.

Eneas Munson 1st, M.D., portrait loaned by Frank Munson.

Eneas Munson, M.D., portrait loaned by Charles Munson.

ANNIVERSARY CHAIRMAN,

FRANCIS BACON, M.D.

TOASTS.

OUR COMMONWEALTH.

"The people's government, made for the people, made by the people, and answerable to the people."

HON. ORVILLE H. PLATT, LL.D.

THE CONNECTICUT MEDICAL SOCIETY.

"Let us then be up and doing
With a heart for any fate;
Still achieving, still pursuing,
Learn to labor and to wait."

DR. C. A. LINDSLEY, M.A.

MUSIC.

SISTER SOCIETIES.

"Then you love us, we you, and we'll clasp hands."

PROF. W. H. WELCH, M.D.

AMOS H. JOHNSON, M.D.

PROFESSIONAL EDUCATION.

"For learning has brought disobedience and heresy and sects
into the world, and printing has divulged these and other libels"

TIMOTHY DWIGHT, LL.D.

MUSIC.

THE CLERGY.

"Where one that holds communion with the skies,
Has filled his urn where these pure waters rise,
And once more mingles with us meaner things,
'Tis e'en as if an angel shook his wings."

REV. NEWMAN SMYTH, D.D.

MEDICAL WITNESSES.

"Why should not conscience have vacation."

MUSIC.

OUR PATIENTS.

"Like a German clock, still a-repairing, ever out of frame
and never going a-right."

GEORGE L. PORTER, M.D.

THE PRESS.

"Here shall the press the people's right maintain,
Unaw'd by influence and unbribed by gain."

COL. N. G. OSBORN, of the *New Haven Register*.

MUSIC.

The good night was said as the hour approached two.

Among the delegates and invited guests besides those already mentioned were Dr. Henry O. Marcy, President of the American Medical Association; Prof. W. H. Welch of Johns Hopkins University; Dr. M. W. Russell, President and Dr. W. T. Smith, Secretary of the New Hampshire Medical Society; Dr. W. H. Palmer, President and Dr. W. R. White, Secretary of the Rhode Island Medical Society; Dr. Stephen Smith of New York; Prof. R. H. Fitz of Boston; Dr. W. H. McCollom, Brooklyn; Dr. Henry R. Stedman, Roslindale, Mass.; Dr. E. G. Janeway, New York; Dr. George Cook of New Hampshire; Dr. N. B. Sizer of Brooklyn. From New Haven, Gen. S. E. Merwin, Mayor Sargent, Prof. George L. Fox.

N. E. WORDIN, Secretary.

HISTORICAL ADDRESSES.

THE EARLY PHYSICIANS AND YE STATE OF MED-
ICINE IN CONNECTICUT PREVIOUS TO 1792.

BY GURDON W. RUSSELL, M.D.,—HARTFORD.

HISTORY OF THE CONNECTICUT MEDICAL
SOCIETY.

BY FRANCIS BACON, M.D.,—NEW HAVEN.

SOME EARLY POST-MORTEM EXAMINATIONS IN
CONNECTICUT.

BY CHARLES J. HOADLY, LL.D.

AN ACCOUNT OF EARLY MEDICINE AND EARLY MEDICAL MEN IN CONNECTICUT.

BY GURDON W. RUSSELL, M.D., HARTFORD.

Although a few persons had remained in Windsor through the winter of 1635, and a fort had been established upon the banks of the Connecticut by the Dutch at Hartford a few years previous, yet there had been no organized attempt to settle the country until the arrival of Mr. Hooker, with his company, in 1636. The previous visitors were from the Massachusetts colony, who came to trade with the Indians, or to seek out the fair lands on the river, and were mostly an advanced guard of the dissatisfied people in the Bay. After a journey of a fortnight, of which we have no detailed account, the settlers arrived here without serious inconvenience, and soon began those preparations for shelter and comfort which seem to be customary for all adventurers.

There is no mention made that a physician accompanied this body, though Mr. Hooker is supposed to have had, and probably did have, some medical qualifications. It was customary in those times for the clergy and other learned men to obtain some medical knowledge before emigrating, and the pioneers were always anxious to secure a physician to live with them. A note in Young's Massachusetts Chronicles led me to think that there was one here by the name of John Pratt, of whom it is said that "he settled at Newtown or Cambridge, but removed to Connecticut in 1636." Governor Winthrop says of him, that "he was an experienced surgeon who had lived in New England many years, and was of the first church at Cambridge in Mr. Hooker's time." Now, as John Pratt is recorded as holding land in Hartford in 1639, it seemed probable that, having become discontented in Massachusetts, as we know he had,*

*Gov. Winthrop says that "he had been long discontented, because his employment was not so profitable to himself as he desired." Besides, he had been cited before the Court in 1635, as he had "raised an ill report of the country," and doubtless fully realized that while there might be truth in some of the glowing accounts "sent home" by Francis Higginson in 1629, there was also truth in what he further wrote, "for when you are once parted with England, you shall meet neither with taverns, or ale-house, nor grocers, nor apothecaries shops."

he had become a follower of Mr. Hooker in his new home, and, therefore, was the first physician who settled in the colony; but he was not.

The error arose in this wise: There were two John Pratts living in Cambridge at the same time; one of these was Mr. John, and the other was plain John. In the Pratt genealogy is found the following: "In the first division of Cambridge lands is a lot assigned to John Pratt, and another to Mr. Pratt. As the title of Mr. was then given to professional men, and to men of particular distinction, it is probable that the Mr. Pratt was the surgeon Mr. Pratt." As he was some years after drowned upon the coast of Spain, with his wife, and left no children, he could not be the John Pratt of Cambridge who held land with him at the same time, who did come to Connecticut, had numerous children, was a farmer, as supposed, and died in Hartford many years afterwards.

Our colonists were at first dependent for their medical service upon their clergy, who had some knowledge of medicine; upon the few physicians who had emigrated with them; upon the midwives, who had experience, and were tolerably well qualified; and lastly, upon themselves. In diseases of a serious nature they must have suffered. The experience of Massachusetts Bay was the experience of Connecticut; for many years our people were no better provided than they, and the mortality in both colonies, at times, was great. The scanty supply of food, the crowding in small dwellings ("cellars," some of them were called in New Haven), the excessive, and to many, unaccustomed labor, great fatigue and exposure, were sufficient causes to produce numerous deaths. The occasional physician could see but few of the sick, and but few of the sick received any very efficient aid.

As much has already been written about the state of medicine in the colonies, I shall, in this address, speak of a few of the medical men who seem to be worthy of special remark.

THOMAS LORD.

Though Thomas Pell was the first practitioner of whom we have any mention, yet Thomas Lord was the first who was licensed by the General Court. He was the son of Thomas Lord, who came over in the "Elizabeth & Ann," in 1635, with

his wife and seven children; an elder son, Richard, had left before them, probably to find and prepare a suitable dwelling place. The father is among the landholders in Hartford in 1639. The son was sixteen years old at the time of embarkation. The first mention of him is in 1648, when he became surety in £20 for his brother John, "to carry good behavior in his course of life." He was now twenty-nine years of age, and must have occupied some position in the town, and probably was giving himself somewhat to the practice of medicine, though Dr. Sumner says "he was at times employed as a school-master." That he was qualified as a physician is shown by the action of the Court in granting him a certain sum for his services "if he will remain in the town," indicating, perhaps, that he was dissatisfied with the encouragements which he had hitherto received. His instructors are not mentioned, for beside Mr. Pell, and possibly Rev. Thomas Hooker, it is not known that there were any in the town qualified to teach him. It is fair to suppose that, with a natural aptitude for learning, and the reading of some medical books, and his observation of such cases of sickness as he was able to come at, he was as well qualified as most of those about him, or, for that matter, as many of those who came after him.

At any rate, the Court trusted him as many now, in the new and thinly-settled districts of our country, are obliged to accept the services of any one who calls himself a doctor, unless they have more confidence in themselves or in their neighbors. But this rarely happens, for men, when ill, almost instinctively turn for aid to any one who promises help, and accept it, if it is given with positiveness and with authority. There is, and always has been, so much of mystery in our art, that when the body is weak, men often lose that good sense which at other times belongs to them.

The action of the Court, June 30, 1652, was as follows:

"Thomas Lord, having ingaged to this Courte to continue his aboade in Hartford for the next ensuing yeare, and to improve his best skill amongst the inhabitants of the Townes upon the River within this jurisdiction, both for setting of bones and otherwise, as at all times occassions and necessityes may or shall require. This Courte doth graunt that hee shall

bee paid by the Country the sum of fiftene pounds for the said ensuing yeare, and they doe declare that for every visitt or journeye that hee shall take or make, being sent for to any howse in Hartford, twelve pence is reasonable; to any howse in Windsor, five shillings; to any howse in Wethersfield, three shillings; to any howse in Farmington, six shillings; to any howse in Mattabeseck, eight shillings; (hee having promised that hee will require no more;) and that hee shall bee freed for the time aforesaid from watching, warding and training; but not from finding armes, according to law."

Dr. Lord appears to have had a suit against Left. Hollister, for the Court at this time directed that a committee shall "p^rfect the gathering the Rate for Thomas Lord, by destreint or otherwise, together with ye Court charges respecting the action of Tho: Lord contra Lt Hollister, and for two executions, w^{ch} is thirteen shillings six pence."

I suspect that matters did not run smoothly with our doctor, and that very likely he removed from Hartford, for he died at Wethersfield in 1662.*

THOMAS PELL.

Such an examination as I have been able to make of early records shows that Thomas Pell is the first one mentioned as belonging to our profession. He was a surgeon at the fort at Saybrook. When the expedition against the Pequots was undertaken in May, 1637, under the command of Capt. Mason, Thomas Pell accompanied it in the capacity of Chirurgeon. Though only two of our forces were "slain outright, and about twenty wounded," yet the demand for surgical assistance was needed; "especially," says Capt. Mason, "our Chirurgeon was much wanted, whom we left with our barks in Narragansett Bay, who had orders to remain until the night before our intended assault." Why he was absent does not distinctly appear, for the attack upon the fort was made early in the morning. It could hardly have been from any fault of his own, for his whole after life shows him to have been a man of resolute

* He was chosen schoolmaster in Wethersfield April 1658, and again in 1659, when a salary of £25 was allowed him, and to have a house and meadow lot, rent free as formerly. He was also chosen again in 1660, and bought a house lot from Thomas Williams. He left a son Thomas, who was a noted bone setter.

and determined character. The large number of Indians slain in this battle, with only "seven taken captive," shows that the western estimate of a "good" Indian was not of recent origin.

Thomas Pell was a gentleman of good estate, born in Sussex, in England; and is recorded by Hotten as being a passenger in the *Hopewell* in 1635, aged 22, and registered as a "taylor." In 1642 he appears in court, held in New Haven, as the attorney for the executor of Richard Jewell; probably he was a resident there. Here he followed his profession, as far as opportunities were afforded him, but he was also extensively engaged in trade. In 1645, in an action before the court for damages, a defective gun having been sold for a sound one by Francis Linley, and "Stephen Medcalfe having sustained the loss of his eye" by the "brich" flying with it, Mr. Pell was summoned, perhaps as having been his attendant, perhaps as an expert, by Medcalfe, and so willing to give a favorable opinion for the party summoning, for the "losse of his eye, wth the losse of his time and the great chardge of his cure," Mr. Pell affirmed it was worth 10*l*.

In March, 1647, he was freed from watching. In July, 1648, "John Thomas was too late wth his armes one Lord's day, the reason he saith, was because he had a child sicke and was faine to goe to Mr. Pell for something for it," which indicates that he was still in practice, as I suppose he was for the whole or greater part of his life. As showing that he was engaged in business outside of his professional life, we find that at a court held in New Haven on April 8, 1645, he was accused by John Meggs "of extortion or unrighteousness in the prices of leather sold to him, but John was not able in June to make good the said charge, and did now acknowledge his error."

In 1646 several persons, among them "Mr. Thomas Pell, being warned to the court, and appearing not themselves nor by deputies, were layd under contempt of the court." In the same year he was "seated in the meeting house in the cross seats in the end."

In 1647 he "attached about 200*l*. of Mr. Zellick's goods." There was also a suit-at-law about "some beaver," which was finally settled.

He had married the widow of Francis Brewster in 1646-7, and had refused or omitted to give in a list of her estate, and unexpectedly had found himself responsible for some previous debts of the widow, and was asked in court "for his wives fine." He thought he was not responsible, and "desired more liberty to consider of it; but the court tould him they conceived ther was forbearance inough allreadie." Again, with others, "being all warned seasonably, he made no appearance, though the court sat a good space of time." There was a strain betwixt them; the Doctor was strong-headed, and the court was persistent, which is saying pretty much the same of both of them.

In February, 1647, he "was warned to the court about his wives fine," and "desired to know by what lawe it was demanded; it was tould hime, by the lawe of his marrying the widdow, w^{ch} owed it before he married her." Then there was a discussion about the order, in which a line was left out by an error of the secretary, and so "dothe not rune cleare and in good sense." Mr. Pell "said it was good dialect," and the Governor "tould Mr. Pell he conceived he did not understand what dialect is." Governor Eaton plainly did not like the badgering of the Doctor, and had become irritated, and Mr. Pell was not inclined to be browbeaten by one in authority.

In September, 1648, he had another bout with the court about a fine of 10 \textsterling , and was asked his reason for not attending to it. He "said he should be silent, for he had given offence heretofore wth speaking," and he remained silent, although an answer was desired.

Savage says he removed to Fairfield in June or July, 1650. Probably he was glad to be out of the immediate sight of Governor Eaton, though he was not out of the jurisdiction of the colony. The irritation caused by suits at law and disputes about fines were not conducive to his happiness, nor that of his wife. As one runs over the records of the New Haven colony, he cannot but consider the pettiness of many of the cases brought before the courts, and—if I was not standing here, where the courts were held—I should say of the greatness of the governor and court in little things. The dispute

was continued for some time afterwards, the court demanding an answer for "those miscarriages and contempts," and he finally appealed to the next court of magistrates, and removed to Fairfield, as above stated.

After the union of the Connecticut and New Haven colonies he was chosen one of the assistants for Fairfield at a court of election held in Hartford. In 1663, at a general assembly held in Hartford, "liberty was granted to Mr. Thomas Pell to buy all that land of the Indian proprietors between West Chester and Hudson River, provided," etc. He doubtless thought more consideration was granted him in the northern capitol. The purchase included a large tract of land, afterwards termed the Pelham Manor, where, I think, he lived and transacted business for some time afterwards, though he died in Fairfield, September, 1669. Savage says "he was a wealthy merchant and gentleman of that early period." I have not been able to learn anything further about him as a practitioner of medicine than has been mentioned, but conclude that he continued to combine it with his duties as a merchant and farmer.

The inventory of his estate, specifying minutely the items, as was the custom of the time, was very long, and amounted to 1,294*l.* 14*s.* 4*d.* The library was not very extensive: "1 old Bible, £0—4—0. Culpepper's Dispensatory, with 3 other small books, £0—10—0, and two of Cradock's works in quarto —0—0."

JASPER GUNN.

Among other early physicians in the colony was Jasper Gunn. There is in the library of Trinity College an almanac which formerly belonged to him; it is a bound volume, in size six inches by four, and contains one hundred and twelve printed pages. At the beginning, bound with it, are thirty-five leaves, and at the end twenty leaves, originally of blank paper, which are now filled with writing, consisting mostly of his charges against individuals who employed him, either in Hartford or other places. The time is 1656 and '57. The pages are stained from water or exposure and use, but the writing is mostly in a very black ink, in small letters, and some of them are very delicate, and evidently written with care, and the time which comes to a man not constantly occupied. A

considerable number of the pages are filled with characters, fully understood by the writer, but perfectly unintelligible to me. These are notes in shorthand, and consist mostly of a few lines, under distinct heads which are plain ; it is not possible to say whether they are of his own composition or are extracted from books. For instance, on one page there stands "synochus, causea," then two and a half lines of characters ; then "signa," followed by two more lines of the same ; then "ffebbris continua" and "febris quotidian," with five lines ; and "the pure intermitting tertian," with five more. Other pages are nearly filled with notes on "Phrenitis, Letergus, Catoche or Catalepsis, Coma, Apoplexia, Paralysis, Erilypsia, Spasms, &c., Peripneumonia, Pthisis, of panting and trembling of the heart."

There are a few pages of surveyor's notes on the laying out of land in Derby, and on the Naugatuck, and at Rockrimmon. "Nov. 20, 1679, Joseph Hawkins and Abel Gunn being appointed by the town of Derby to lay out plum meadow and the adjacent land," etc. Abel was the son of Jasper, and made use of the unappropriated pages of his father. Paper was not plenty, and economy was practiced by the early settlers in everything. I have seen some old account books which have been filled with the entries of three or more generations of the same family, and filled, too, with all kinds of entries, as the charges of labor, sale of beef or sheep, making of plows, sawing of boards, grinding of grain, to records of marriages, births of children, deaths, etc., etc., forming a curious and valuable index of the domestic life at the time.

Mr. Charles J. Hoadly has made the following note concerning Jasper Gunn, which is pasted in the almanac, and which I copy for the definite information which it gives us :

"Jasper Gunn (not James, as Dr. Dutton calls him, deceived by the abbreviation Ja.) came over in the ship *Defence* in 1635, aged 29. He was made a freeman of Massachusetts in May, 1636, and settled in Roxbury, where he was a member of the church, April 25, 1641, with his wife, Mary, and had two children baptized there. He removed to Hartford about 1646, where he bought lands, and was one of the townsmen for the north side in 1655-6. In 1649 the General Court of Connec-

ticut freed him from training, watching, and warding during his practice of physic. Soon after he returned to Milford, where he was a deacon in the church in 1661, and represented that town in the General Court of New Haven jurisdiction in May, 1663. He died in 1670. His son Abel, who afterwards owned this book, was one of the early settlers of Derby. The names of quite a number of early Hartford residents appear in the MS. accounts in this book.

“CHARLES J. HOADLY.

“April, 1883.”

The first mention of him which I find in the Colonial Records is at a meeting of the Particular Court, held at Hartford, December 28, 1648, as follows: “Jasp^r Gunn pl^t contra Nicho: Olmsted defend^t, in an action of the case, damages 41s.”

The next is at a meeting of the General Court, September 13, 1649, when “Jespar Gunn of Hartford is freed from watching during the time hee attends the service of the mill.”

At a like court, May 21, 1657, he “is freed from training, watching and warding, during his practise of phissicke.”

In the New Haven Colonial Records, at a court held at New Haven, May 27, 1661, he appears in a case about a horse as attorney for Mrs. Joanna Pruden of Milford. October 16, 1661, “Deacon Gun of Milford ppounded in the behalf of Mrs. Prudden,” etc.

It appears that in 1649 he was in “the service of the mill,” and in 1657 he was freed from certain duties “during his practise of phissicke.” During this interval he had qualified himself, so that the General Court gave him some privileges. How extensive his qualifications were it is not in my power to say; but, inasmuch as he occupied a fair position in the colony, and was afterward deacon in the church at Milford, it is reasonable to suppose that his knowledge was respectable, if not extensive. Perhaps he had been under the instruction of Thomas Lord, but more probably Thomas Pell had given him some aid; and, again, the Rev. Mr. Hooker might have been of assistance to him. If one is to judge by his chirography, he was a man of some education; the letters are formed by a hand that was more than ordinarily skillful, and, as has been said before, are remarkably distinct and regular. The handwriting of most

of the people was poor enough, and many of them could not write at all. He knew enough of Latin to write the names of his drugs in this tongue.

The charges which he made in the account book in the almanac show that he was probably a dealer in ironware; it might not be correct to call him a tinker, but his charges for mending kettles and skillets, and for mending brass, indicate that with his employment at the mill, the practice of medicine, the mending of brass pots, and his appearance in court as attorney in suits at law, together with his filling the office of a deacon at Milford, that he was an industrious and useful man in the colony. In our day we would say he was an all-around man.

A few of his professional charges are given, by which we can judge somewhat of his intelligence.

Sam^l: Lumis Debtor to Ja. Gun

ffeb. 25, 56.

Due upon the old acc:	.	.	.	.	.	.	.	— 01 — 00
for mending a kette and scillet	.	.	.	.	.	.	.	— 03 — 04
for 64 $\frac{3}{4}$ of sir:	.	.	.	.	.	.	.	— 21 — 04
for oyntment of meth	.	.	.	.	.	.	.	— 02 — 00
								<hr/>
								27 — 08

Feb 11, 56

Due to me from Isake Granis

Due before for his children	7 — 6
for things for his yonge chd :	.	.	.	.	.	.	.	5 — 0
for 7 doses of pills	.	.	.	.	.	.	.	7 — 0
for 4 Journeys	.	.	.	.	.	.	.	2 — 0

ffeb 16, 1656

Reconed with Isak Graniss & due to me 18s to be payd to
ffield

April 14, 56.

Due to me from Th Steadman

for a po: of pills coc :	.	.	.	.	.	.	.	2 — 0
for Con : alker mis	.	.	.	.	.	.	.	1 — 0
for 2 $\frac{3}{4}$ sir : Rosarum	.	.	.	.	.	.	.	0 — 9
for powder for her head	.	.	.	.	.	.	.	1 — 0
for oynt	.	.	.	.	.	.	.	0 — 9
“ Veale	.	.	.	.	.	.	.	3 — 10
for Sir : hoare	.	.	.	.	.	.	.	2 — 6
for $\frac{1}{4}$ Veale more	.	.	.	.	.	.	.	2 — 0
for Jos Kellsy	.	.	.	.	.	.	.	8 —

Due to Ja: Gunne from	Dickinson
for 32 $\frac{3}{4}$ of Julep	9—00
for too doses of pil	3—00
for 32 $\frac{3}{4}$ of Decoxtion	9—00
for 3 $\frac{3}{4}$ of Elect. and oyntment	6—00
for to Journeys	7—00
	<hr/>
	34—00
Due to him for hony	03—00
	<hr/>
	31:—00

Due to me from Tho: Jud

for mending of brass	2—00
for 2 doses pillu Coche:	4—00
	<hr/>
	6: 00

Due to me from Ja: Mygate 56

for a decoxon 28 $\frac{3}{4}$	4—8
for 3 vs ^{ts}	3—00
for Conserves 2 $\frac{3}{4}$	1—6
	<hr/>
	9—2

Due to me from Isak Sheldon 1656

for his child Elect	4—0
Aloes 1 $\frac{3}{4}$	1—0
keeping his man a week	4—0
for 16 $\frac{3}{4}$ —	5—4
for Theri and saffr	2—0

R of this in wampom 2—0

Due from Jo^s Kelly

for his child	3—0
for himself	3—0
for my Jour	
and Elect	2—0
and pills	1—00

There are some figures and characters on the right side of this charge which are not understood, but may be credits to Kelly.

March 4 56

Due to me from William Ayres: 56

for 36 $\frac{3}{4}$ of sirup for Jo ⁿ	12—0
for 4 $\frac{3}{4}$ Elect:	08—0
for Diocor 3 $\frac{3}{4}$	02—0
for 5 vists	05—0
for 1 $\frac{3}{4}$ of oynt:	01—0
for 2 new scillets	07—0
	<hr/>
	0

It is not easy to ascertain the particular remedies which he employed, from the potions, pills, purges, syrups, and decoctions used; they doubtless, as was the custom then, were compounded from many articles. He also charges for mithridate 13i 2 — 6, for Diatess 13 2 — 6, and rec'd in pay a bushel of oatmeal at 8^{sh}. To one account, "for Raphont: and Sene & lico:" To another, "for plaisters for wormes 1 — 4." For Diocord: 3 2 — 6. Juniper berries, 23 — 1 — 0. For Conf: Alchirmis 1 — 0 (Alikermis). For Rapont 63 — 8 — 0. For 2 doses pillu Coche: 4 — 0. He charges Will: Clark Feb. 24, 56, for 12 wt of beefe 3 — 0, for a new scillet 3 — 0, for 4 doses of therica 2 — 0, and he received of him for this debt, "July 13 56 3 fork Steales and a Rake 2 — 10, for 4 3 $\frac{1}{4}$ of turnep seed 1 — 0."

Due to Ja: Gun from Geo: Wiltortun

	<i>s</i>	<i>d</i>
for mending a kettle	00	04
for a warmingpan	08	00
for mending a ketl	00	10
for a cows hide	11	00
for a hifurs hide — 43 $\frac{1}{2}$	10	10 $\frac{1}{2}$
for my ox hide 83	20	09
for beefe 14 $\frac{1}{2}$	3	7 $\frac{1}{2}$
for beefe 21 $\frac{1}{2}$	5	4 $\frac{1}{2}$

Receiv'd March 12 $\frac{57}{58}$ due to me

The title page reads Hemeroscopeion Anni Intercalasis 1652, &c. By Capt. George Wharton, Student in Astronomy, London.

It is evident that Dr. Gunn did not confine himself wholly to the practice of medicine. I judge that he was a small farmer, possessed a shop, or store, where the charges for sugar are frequent. Certain goods were sold, and brass kettles were mended; that he was in "the service of the mill in 1657" (probably a saw mill), as there are certain memoranda in the almanac by him relating to boards, and possibly was otherwise employed. Certainly his time could not have been wholly occupied in professional employments, for the population was small in number, and the midwives were doubtless well qualified, and used.

It will be noticed that the charges for medicine are large, and that the fee for "journeys or visits" is small. Apparently,

for his neighbors, it was only a sixpence; but for longer distances it varies from one to two shillings. The name of the town is not often given; he charges "Joⁿ Lancton, for my too Journeys 18 shillings"; fee to "Farmton," eight shillings. To "Good. barnes" five shillings for "one Journey." To Thos: Newell "for a Journey, 8 shillings"; to Geo: Houkins "for my Journey 10 shillings"; to Ja Deman, "for 3 Journies, twelve shillings"; Joⁿ Andrews, ffar; "for my Jour 3 days, 12 shillings." Ste: Hart Sen. "for Rachel for my Journey to her, 5 shillings," William Ayres, "for 5 visits, 5 shillings"; "8 tr of Sugar 6s — 08."

A page is given to remedies "for payn in the head;" one prescription is quoted, "for Rhume in the head, Take a Read onyen briuse it small seeth in a litl vergiuce and put to it a litle hony; clarified; when thay be well Sod put in a good spoonfull of musterd: setle it long and lay it to the head let the sick lie on his back."

Ap. 16, 59.

Due from fra: Barnard for her girles

for a dose of pills	0 — 02 — 00
for 6 doses of pul. diat.	0 — 12 — 00
for theri: Castor 18 doses	0 — 09 — 00
for syrrup of Oxy mel Comp: 24 $\frac{3}{4}$	0 — 08 — 00
for vissites 25 times	0 — 12 — 00
for a purge of Rhubarb	0 — 02 — 00
	<hr/>
	45 — 00
	<i>s</i> <i>d</i>
Rec. of him in corne	16 — 00
Re in butter	

BRAY OR BRYAN ROSSETER.

Bray Rosseter came from Massachusetts, and was among the first settlers in Windsor. He is said by Stiles to have been a well-educated gentleman, and to have been admitted to practice by the General Court, "being first tried and approved by Mr. Hooker, Mr. Stone, and old Mr. Smith of Wethersfield,* in the face of the said Court." He was also the first Town Clerk, which office he held until his removal to Guilford, in 1652. He was strongly urged to settle there as a physician, and bought

* Rev. Henry Smith, the first minister.

the house formerly owned by Mr. Desborough, who was then leaving for England. He was freed from watching, being a physician, and was employed as a surveyor, which occupation he had followed in Windsor. He was deacon in the church at Guilford, and continued the practice of his profession there also, and was evidently regarded as a man of learning and skill, and of importance where he resided.

In October, 1642, at the Particular Court, "Bray Rocester was pl. agt. Wyddow Hudgison, executrix to Will: Hudgison defen in an action of debt to the damage of 16 l." and execution was granted upon the goods of the defendant. The particular cause of this case is not apparent; perhaps it was for attendance and medicines during the last sickness of the good man, which the "wyddow" declined to pay; possibly as being exorbitant, possibly because she was unable, possibly without any good reason at all. Litigation appears exceedingly common at that period, considering the small number of persons in the colony, and perhaps it must be condoned, or regarded as one of the peculiarities of the times, like the banishment of offending individuals, or the hanging of witches.

He again appears at a Particular Court, held March, 1648, when "he acknowledged himself bound in a Recognizance of 20 l. that the said Samuel Comstock shall carry good behaviour for the space of ten days," etc., which shows that he was willing to help his friends.

He had been in Guilford some seven or eight years, and wished to extend his possessions, so the General Court, in 1660, said, "In reference to his desire respecting land upon Stratford River, the Court approves of his purchase, and allows liberty to purchase one hundred acres more."

He was still in the practice of medicine, and was called to Hartford in 1660, to attend or advise in the case of Mr. John Talcott, who was one of the magistrates, and a very prominent and valuable inhabitant. Perhaps he came to consult with the worthy Governor John Winthrop, himself a skilled physician. Mr. Talcott died in March, 1659-60, and the Court, appreciating the services of Mr. Rosseter, and desiring to compensate him in his endeavor, ordered that "Mr. Bray Rosseter for and in consideration of his paines, in comeing to and attending Mr.

Talcot in his sickness, is allowed five pounds, to be paid out of ye pub. Treasury." It was a long way from Guilford to Hartford, in those days, with the poor roads or pathways, the journey to be done on horseback, and in March, or earlier, when the traveling was naturally at the worst. But it is an evidence that he was appreciated for his skill by his old neighbors, who remembered him, and by the colony also, in directing that he should be paid from the public funds. Mr. Talcott had been absent from several meetings of the magistrates for a time before his death, and his sickness was probably of some chronic character, but the nature of it does not appear.

At a General Assembly, held March 11, 1662-3, it was voted, "This Court allowes unto Mr. Rosseter, Twenty pounds, in reference to openinge Kellie's child, and his paynes to visit the Dep: Gouverno^r, and his paynes in visiting to Mr. Talcot. Of this Twenty pounds, he hath already receaued 11*l.* 1*s.* 4*d.* He is to make noe further demands of any p^rticular p^rson."

It has been in doubt whether this was an operation upon "Kellie's child," or whether it was a *post-mortem* examination. The plain understanding would indicate the latter, and, if so, it has been thought to be the first recorded instance of the kind in the colony. With his usual industry, Mr. Hoadly has undertaken an investigation of this matter, and has been fortunate in establishing its truth. He will give a paper to this Society, with the details, which are interesting and valuable, showing that it was in verity a *post-mortem* examination; and also other instances of a like nature, which indicate that some of the old professional men were progressive in their ideas, and were willing and anxious to improve their opportunities for pathological investigation.

And here it might be proper to speak a word in favor of the men of that period, who were devoting their lives to the practice of medicine. Some of them were highly educated, and had become familiar with the theories and practice of our art then prevalent in Europe. Not a few of them had attended the lectures of the celebrated men of their times, and could read the various works printed in Latin, describing the diseases, and the pathology, and the treatment. But a few in the profession could do this now, without the grammar or the dictionary as

helps; and it should be remembered by those who are accustomed to ridicule the theories and practice of two hundred years ago, that both theory and practice have changed many times in the interval, and probably will often change in a like space of time in the future. While their views were often crude, and their practice empirical, yet, in the main, they treated disease, I suspect (that is, the common diseases), more successfully than we credit them. The wonderful changes which we have made in the last century, which we are apt to call improvements, may possibly be paralleled by the fifty years to come; and, before our brethren meet to celebrate the two hundredth anniversary of this society our own views may be regarded as absurd as those of our progenitors of colonial times. I yield to no one in my admiration of those brilliant men who have made such advances in our surgical department, and give relief or cure to such diseases as were formerly thought to be incurable; or of those other men who have given to us numberless remedies of great goodness, and shown us their true value in disease. We have a right to boast of these, and compare them with all that has gone before, but not to consider that all which has gone before is altogether vain and useless. If we laugh at the singular and numerous ingredients in the combinations of our forefathers, we may smile (and there will be many to do it) at the late craze in the treatment of disease with little beside the products of coal oil.

The minute knowledge of pathology, and the true applicability of remedies, give to us now a basis for the more exact treatment of disease than was ever before possessed. This is especially true of singular or unusual cases, which were formerly incorrectly diagnosed, or imperfectly treated. It is by no means sure that a like opinion will hold as to the complaints which are simple, or to the diseases which are very common. Possibly many of these would subside in a natural way, if they were not interfered with; it is well known how often many are helped, yea, are cured, under very diverse methods of treatment. No man of intelligence, if he is studious and observant, can practice medicine for a score of years without finding out what is generally best for his patient. While the methods of our fathers were far behind our own, yet their close watch of

symptoms gave them some compensation in the treatment, which I fear has to a too great extent been overlooked. Their very necessities made them very close observers, and their success was greater than we are often willing to allow. I must confess my great admiration of those men in any occupation, whether of the past or present, who, with no extraordinary advantage, but with common sense, and a fair education, and a desire to learn, study to know all that is possible to know, and give to their fellow men all that it is possible for them to give.

It is not my desire to trench upon the grounds of him who will follow me, concerning that which occurs after 1792. But in this connection, contrasting the old and the new, I may properly allude to one subject, that which overtops all others, because it brings relief from pain to so many. The allusion is to anesthesia, one of the greatest boons which the century has enjoyed. And I allude to it now, for the man who practically introduced it, put it into shape, and gave it a direction, was a dweller in our own state, known to many now living, and deserving of the highest honor. It was *Horace Wells* who did this thing, and to him, and to none other, now acknowledged — may we give our praise, and benedictions that light perpetual may ever shine upon him. He was the Columbus of this discovery, and, though he probably did not realize the extent to which it has been carried, yet did realize its importance, and cry out, after the extraction of a tooth under the use of the nitrous oxide gas, “that it did not give him pain, and that a new era had arisen in medicine.”

Let us return to some matters particularly concerning Doctor Rosseter. He and some of Guilford had concerted together and were desirous of placing themselves under the jurisdiction of Connecticut. Governor Leete called a General Court at New Haven, May 7, 1662, “to consider the affayres of jurisdiction, &c., and also to consider about Mr. Rosseter and his sonne, that was now under the custody of the marshall.” This matter does not so much pertain to the early state of medicine in the colony as it does to the lively and very persevering conduct of one of the early practitioners. No doubt the doctor had become displeased with the petty dealings of Governor Leete, and so probably had many in Guilford, for we find that they had sub-

scribed "too some offensive papers," and were questioned severely why they had done so. Nearly all of them were very humble, and laid the blame upon Mr. Rosseter, who had written the paper to "express their grievances." The union of the two colonies had been in discussion for some time. The charter which Winthrop had secured from Charles II. included the New Haven Colony, which was very unwilling to be absorbed by Connecticut. Rosseter had now denied the jurisdiction of New Haven, and "refused to pay some rates for his person and horse, on the claim of his being an allowed physician, pleading that the laws of nations exempted such from personal service and their estates from rates and assessments, — that they were not required in the Bay, nor in New Haven, of the French doctor, and Mr. Pell, nor had been demanded of him while he lived in Connecticut." Denying and disliking the New Haven jurisdiction, and wishing himself again a member of the Colony of Connecticut, he had no scruples in making a resistance to the laws of the former. As payment of the rates was refused, the officer proceeded to "take away two coves," when John Rosseter, the son, "tooke vp an axe, and went to the gate, and told vs we should have no coves there." Under examination, goodman Bartlet asked "why they took such a course, to strike the marshall as his father had done," which leads us to infer that he rejoiced in his son and had assaulted the officer.

On May 28th the Court considered the matter further, and the acknowledgment of Mr. Rosseter and his son, which was not satisfactory. But, after being labored with by a committee of six members of the court, and Mr. Davenport, Mr. Street, and Mr. Pearson, "in the presence of Mr. Allyn and Mr. Willis of Connecticut, waiting to see an issue of the business," they both made such acknowledgments as they could be brought to, which, like most forced reconcilements, were satisfactory to neither of the parties.

The secret movement underlying the matter was this: that the Connecticut Colony, by virtue of its charter, was willing to absorb the New Haven Colony, and had admitted to their General Court deputies from Guilford and Stamford; and our doughty doctor, with many others, were willing and desirous to be absorbed, and so he did not recognize the legality of the

rates laid upon him and his horse. There would have been no trouble if the New Haven people had cheerfully consented to be absorbed. We now can understand the origin of the hard feelings with which the people of New Haven have regarded the good men at Hartford, upon the Connecticut River; the memory of the offense remaining for over two hundred years in the minds of one of the parties, while the other is perfectly satisfied, having nothing of which to complain, rejoicing in being bound in such good fellowship. The interesting point about it is, that one of our profession, usually the wisest and most peaceable of mankind, should have been so mixed up in it, and should have given Governor Leete and his friends so much trouble.

The frame of mind in which our doctor was living could not have been congenial with a peaceful practice of his profession. At a meeting of the Connecticut Council, December 28, 1663, Bray Rosseter appeared, "complayneing of some threatening expressions that have bin by some vented against divers that have submitted to the government of Connecticutt." The Council appointed Mr. Willys, John Allyn, and Mr. Wayt Winthrop to go to Guilford to treat with Mr. Leete. The party arrived at the town on the night of the 30th, and so much disturbance followed "by shooting off sundry guns," that the peaceful village was as much alarmed as if a band of Indians had invaded it. Governor Leete sent for help to New Haven and Branford immediately, and his uneasiness was quieted somewhat by the arrival of "six troupers." Dr. Rosseter appears to have been the special evil spirit of the Governor.

I do not intend to investigate the merits of this controversy, nor to consider it, except so far as it strictly pertains to our ancient brother, who lived there in troublous times, and had the "courage of his convictions." He was an active promoter of the union of the colonies, and came to Guilford with the committee from Hartford. As we have seen, their arrival had caused great excitement, and Governor Leete apparently "lost his head." In "the New Haven case stated," the pleadings are long and sometimes pathetic; it was as if a small and feeble nation was to be seized, and united to a more powerful one. After mentioning the raid into Guilford on the night of the thirtieth of December, they say, "that Bray Rosseter, the father,

hath been long, and still is, a man of a turbulent, restless, factious spirit," and, "is Rosseter and his partie of such value wth yow that what this jurisdiction doth against them yo^r colonie will take it as done to themselves?"

The result of a long disputation and resistance was this, that the two colonies were united; that Dr. Rosseter petitioned to the General Assembly for relief and compensation in 1664, and brought suit against Mr. Wm. Leete and Mr. Seward for £300 damages; that the General Court appointed, in 1666, Mr. Samuel Willis, Captain Talcot, Lieutenant Jno. Allyn, and Secretary Clarke "to endeavour a reasonable and equitable composition with Mr. Rosseter," and that he was paid, in 1667, £60 out of the Public Treasury.

After this our doctor disappears from public record, as far as I know, and perhaps rested in peace in Guilford, helping his neighbors in their ailments, I hope; but probably Gov. Leete was not included among his most intimate and dearest friends. It is recorded in Smith's "History of Guilford" that the Rev. John Bowers from New Haven, was at Guilford a part of the time after the departure of Mr. Higginson, but he was not "generally liked by the people, and was also much opposed by Doct. Rosseter."

He died at Guilford, Sept. 30, 1672.*

The only excuse which can be given for this long sketch of Bray Rosseter, in a discourse upon the history of Early Medicine in Connecticut, is this: that it shows the active life of one of the early physicians, whose varied accomplishments made him town clerk of Windsor, as well as physician, a surveyor, a dabbler in law suits, and an ardent politician. He was a well educated gentleman, fitted for different employments, and conscious of his powers; his very activity made him appear to be somewhat aggressive and "turbulent," as Gov. Leete called him,

*The Rev. Dr. W. C. Andrews of Guilford, says, "There is, I suppose, no tombstone in existence. No epitaph appears in the printed collection in the *N. H. Col. Hist. Soc. Papers*, vol. iv, nor in the supplementary MS. list, (now I believe complete) in my possession. Dr. Rosseter's will, (nuncupative,) is in the *New Haven Probate Records*, vol. 1, pt. 2, pp. 28-9. His two sons having had their portion, and also his daughter Cotton, £100 is left to his daughter Susanna, and £40 to his grandson John. The rest is to be divided equally among his three children. His son Josiah succeeded to the homestead. The signers are John Allyn and Joseph Haines, both, I suppose, of Hartford. The acknowledgement was made Oct. 2, 1672. The inventory, dated Nov. 6, '72, gives a total of £430 17s. 5d. The silver plate was valued at £6 6s. 11d."

to his opponents. He probably was a vigorous practitioner, and we may honor him on this our celebration, more than two hundred years after his death, as one who boldly stood for what he considered to be right.

REV. GERSHOM BULKELEY.

Rev. Gershom Bulkeley was the son of Rev. Peter Bulkeley, and his wife, Grace Chetwood Bulkeley. There had been twelve children by a previous marriage, all born in England. The father Peter, aged 50, came in the *Susan and Ellen* on the 9th of May, 1635, and his wife, Grace, aged 33, in the *Elizabeth and Ann* on the 8th of the same month, according to Hotten's List. Savage thinks they embarked in separate ships to deceive the government spies. There were four children by the second marriage. The first, Gershom, was born December 6, 1636, and not born at sea, as stated by Dr. Sumner in his address before this society in 1851. He graduated at Harvard College in 1655, and married Sarah Chauncey, daughter of the President. He became the second minister in New London in 1661, but was not settled there, only engaging for a term of years. It is not known that there was any disaffection between him and his people, but there was some "uneasiness," probably, as is intimated in Chapman's "Bulkeley Family." It might have been due to that restlessness or independence of character which was occasionally manifested in his after life. He removed to Wethersfield in 1667, and became the pastor of the church there, remaining until 1677, when he was dismissed. From all that I can gather about him, he was a learned and pious clergyman, with talents of a very high order. It is said by Judge Adams that he practically ceased preaching on account of the loss of his voice. The clergyman's sore throat, like some diseases which are thought to be new, is not of modern date.

It is not recorded when he first gave his attention to the study of medicine and surgery. Probably it was some years before this time, and he must have gained some reputation for his knowledge and skill, for we find that he was in the army against the Indians in January 14, 1675, when "the Councill appointed Mr. John Brackett of Wallingford, to goe forthwth to New London, there to take care of and assist in the dressing of the wounded men, in the absence of Mr. Bulkeley whilst he

goeth out wth the army." And in October of the same year, the "Court did order Mr. Buckley to be improved in the present expedition, to be chyrurgion to our army ; and also the s^d Mr. Buckley and Mr. Chaney were ordered and impowered to be of the Councill of War." He was with a party of our troops who were waylaid by the Indians, " while ranging through the woods," and he was wounded in the thigh. It probably was not serious, for the Rev. Israel Chauncy, writing March 27, 1676, for the purpose of obtaining a furlough to visit his sick family, says : " I hope my brother Bulkly, provided he have an easy and able horse, will attend the army, upon the present motion, only, if it be expected, he doth desire care may be taken for an easy horse, and that it may be sent him this night." Mr. Chauncy, like many of the ministers, was qualified to act as a physician, and had in March 1675-6 been appointed " to be one of the Councill of the army, in the room of Mr. Hooker, and allso that he should now goe forth wth y^e army as their chirurghion."

He probably returned to Wethersfield, for in May, 1676, " the Court being informed that sundry wounded men are come to Mr. Bulckly this court desired Mr. Buckley to take the care and trouble of dressing the s^d wounded souldiers till God bless his endeavoures with a cure ; and Mr. Stone* is desired and ordered to assist Mr. Bulkley in the works of the ministry so long as Mr. Bulkly shall be improved as before."

The war against the Narragansetts was regarded as an urgent necessity by the United Colonies, and Connecticut entered into it with spirit and earnestness. No one can read " Hubbard's Narrative," detailing the causes which led to it, without being convinced that the grievances of the colonists were serious. The men in the army and those out of it were determined to put a stop to the numerous massacres of the inhabitants, and the burning of their dwellings, which were instigated by Phillip. All their resources were devoted to the destruction of the marauding Indians, and he who follows the narrative of the various contests and pursuits will learn that both parties were bent on the destruction of one another. While peace was desired by the whites, yet it was to be procured at any cost. The colonists were evidently of the opinion, which ever has

* Son of Rev. Samuel Stone of Hartford.

pertained to our race, and is common to our western people to this day, that the only good Indian is a dead Indian.*

Though Connecticut raised but a few hundred men for their purpose, yet it was styled an "army," and "Major John Tallcott was appoynted commander in chief" May 11, 1676.

"The Reverend Mr. Buckley is appoynted chirurgeon of the army."

"The Reverend Mr. James Fitch is chosen minister of the army," and Major Tallcott was allowed liberty to have a "life garde." The formalities of a modern army corps could not be considered greater. The Reverend Mr. Noyes was also appointed "to be minister to o^r army."

The chirurgeon and the minister were important members of this expedition. The skill of the one was needed, and the influence of the other was important, as he was well acquainted with their allies, the Pequots and Mohegans. The Council did order Major Treat "to take special care of the Reverend Mr. Bulkly and Mr. Noyes," and might well do so, for both of them were valuable men. It is not my wish or purpose in this address to notice any narrative, or men not especially connected with a proper account of the history of early medicine in Connecticut, but the two professions were so often and intimately connected that the notice should occasionally be made. In 1677, Oct. 11, the General Court "grants Mr. Gershom Bulkly to transport two hundred deere skinns out of this Colony this next yeare, any law to the contrary notwithstanding." He had petitioned for liberty to transport deer skins to Boston, to be exchanged for medicines. This is supposed to have been in recognition of his skill as a physician, and of his services in the Narragansett war.

Many wounded soldiers in this war were brought in to different towns for treatment. These were placed under the care of such medical men as could be obtained, who were compensated by the colony. Thus, in May, 1676, "the Court alloweth the chirurgeons, viz.: Mr. Bracket, Mr. John Hull, Sarj^t Warde and Mr. John Olmstead, fowerteen shillings pr week a piece." These might be considered as contract surgeons, resembling

* "It should be confessed that some of the people of Durham were under the influence of a common hatred and horror against the race. In more than one instance when the hat or contribution box was carried round in the meeting house, on the Sabbath, for money to christianize the Indians, instead of a coin, a bullet was dropped in, as if it was the fittest missionary."—*Fowler's History of Durham*, p. 132.

somewhat those employed in the medical department in the late rebellion.

These wars with the Indians were wars of earnestness, especially the war with the Narragansetts. Phillip had endeavored to unite the tribes against the whites, and had thoroughly succeeded in alarming them. The United Colonies, with friendly Indians, scattered and drove them from place to place, but with great loss. At last the whites were completely successful, having fulfilled their orders, "to kill and destroy." Our Puritan ancestors had no doubts about the manner of conducting their wars.

I quote several orders, not merely as points in the general history of the times, but chiefly as matters relating to our profession, and to the calls which were made upon the physicians by the colony. I wish it was in my power to give a sketch of these men, or to locate them in the towns in which they lived, but it involves more of time and research than at present is convenient.

January 14, 1675, "The Councill appointed Mr. John Brackett of Wallingford to goe forthwth to New London, there to take care of and assist in the dressing of the wounded men, in the absence of Mr. Bulkley whilst he goeth out wth the army."

"The Councill also appoynted Sarj^t Warde to goe forth to New London to assist in the tending and dressing the wounded men there whilst Mr. Buckley goeth forth wth the army."

October 14, 1675, "This Court desires Major Gold to send up Mr. Josiah Harvy or John Hall (Hull) to be chirurgions to the army, which of them he judgeth most suitable."

January 2, 1676, "The Councill did grant that a minister's pay shall be twenty five shillings p^r weeke; a chirurgion's pay shall be sixteen shillings p^r weeke."

"The Councill doe hereby return their hearty thanks to the Reverend Mr. Bulkeley for his good service to the country this present war, and doe order the Treasurer to pay unto him the sume of thirty pounds as an acknowledgement for his good service to the country, beside the sattisfying of those that have supplied his place in the ministry."

January 22, 1676, "Mrs. Allyn is allowed twenty pounds for what cures she hath don and paynes taken for the wounded souldiers and those sick."

April 10, 1676, "Mr. Bulkly is granted liberty to transport 60 bush: corn to Boston on Mr. Goodall's Ketch, to purchase som necessities and phissicall druggs."

June 21, 1676, "The Councill ordered that Mr. John Hull be called to Hartford, to looke after the wounded men at Hartford or Wethersfield forthwith."

January 2, 1676-7, "The Councill have granted to Mr. John Olmsted for his service for the country, having viewed his bill, the sume of forty two pounds."

Mr. Bulkeley was dismissed from the church at Wethersfield in 1667, and doubtless now gave more attention to the practice of his new profession. He was chosen as one of the deputies of the General Court in 1679, but no mention is made of his return afterwards. In 1684 he enjoyed a law suit with John Hollister concerning some lands, "in or near a place called Nabuck," in which suit he prevailed. In 1680, our doctor brought suit against Major Pynchon, of Springfield, for services rendered a wounded soldier, and the Massachusetts Court granted him, "in full satisfaction for his cure of Jonathan Welles, a wounded soldier in the late war the sum of twenty-five pounds money, or forty pounds in country pay." This he refused to accept, and in the Hartford County Court was awarded £49 11s. and costs, claiming that the Major had engaged "that due care should be taken for payment of charges, medicine, &c., for Welles." Massachusetts contended that each colony was bound to discharge all existing debts to their own inhabitants for charges incurred by the war. But Mr. Bulkeley doubtless felt that the promise of Major Pynchon was better than an appeal to either colony. He may have been irritated by the delay in securing payment in full for his bill. He was more inclined to use the law in compelling payment for his services than most of our brethren, who suffer much and are peaceful; for, as a very general thing, law has been found by the profession to be both costly and vexatious, and damaging to reputation, even if successful. No body of men, I venture to assert, loose so large a percentage of their business by the unwillingness of debtors, who know of our reluctance to resort to courts of law, to collect even our very just dues; and I must confess that this reluctance lies in the line of the claim of humanity by our profession, which claim does seem to be somewhat clouded by our resort to the law for relief.

Though this is not the way of the world in the dealings of men, yet "humanity" is not pleaded for all its operations. Perhaps it might be well to drop this old cry, and attend strictly to business, and call it business.

Let us consider our examination of the "Connecticut Colonial Records" further. These volumes, prepared by Mr. Trumbull and Mr. Hoadly, are invaluable, and worthy of the attention of any one who attempts a history of the colonial times. Among not the least of their recommendations is this: that the records are presented in plain, intelligible type, a great contrast to the written page, not always easily deciphered or understood by the unprofessional reader. Much of the information in this paper has been gathered from these volumes, which could have been obtained only with great labor had it been necessary to resort to the originals.

In October, 1686, Mr. Bulkeley was licensed to practice by the General Court. It is not easy to understand why this had not previously been done, as he had been engaged as a physician publicly for ten years or more. Possibly he was unwilling to sever his clerical relationship so decidedly before this, or possibly, having become a magistrate, and dabbling somewhat with the law, he might have wished to add to his other accomplishments that of a public recognition of his skill in the healing art. Or, possibly still further, that he might have been denied the legal power to collect his professional fees, as he was not sanctioned by authority. It may however have been reserved to a later day, when only the members of our Society were allowed this privilege, which was taken from us in 1835, under the great pressure of public opinion. The repeal of the "8th section," as it was called, was protested against by many of our members, but a large majority favored it, thinking it to be right that payment should be paid for labor, whether the opinions of the laborer were approved or not. The words of the license are as follows:

"This Court, being well acquainted with the ability, skill, and knowledg of Mr. Gershom Buckley, in the arts of phissick and chirurgery, doe grant him full and free liberty and license to practice in the administration of phissick and chirurgerie as there shall be occasion and he shall be capable to attend."

The last few words may give an explanation of his delay in

procuring a license. I think it quite probable that he had not, for some years, been in very good health. He was not "settled" in New London, and the reason for leaving the church there is not very clear. It was not probably from disaffection of the people, for he remained there for a year or more after he had resigned, preaching occasionally, until his successor was obtained, and the town voted as follows: "It is voted and agreed that Mr. Bulkeley, for his times and paines in preaching the Word of God to us since the time of his yere was expired, have thirty pounds, to be gathered by a rate."

The only evidence that there was any unpleasantness at New London may be inferred from a vote of the town, Feb. 25, 1664-65, when it "was propounded whether they were willing to leave Mr. Bulkeley to the libertye of his conscience without compelling or enforcing him to anything in the execution of his place and office, contrarye to his light, according to the laws of the Commonwealth." Rev. Dr. Chapin, in his Centennial Discourse at Glastonbury says, that "he was a man of peace, but at the same time was one who expected unqualified obedience to authority. A slight questioning of this led to his resignation of the parish of New London, and something of the kind may have operated at Wethersfield." As far as I know, there is no authority for this except the vote quoted above, and certainly there was none for it at Wethersfield, as the following will show:

October 20, 1676, the town of Wethersfield, "being informed by their Reverend pastor, Mr. Bulkeley, that it was too hard for him and beyond his powers, by reason of the weakness of his voice, to carry on the whole work of the ministry among us, did therefore by vote declare themselves freely willing to provide another minister to assist him, and to be a comfort and help to him in that work, and did declare it to be their desire that their Reverend pastor would afford them his advice and direction respecting a meet person for that work, for which they shall be thankful to him, and take it into serious consideration."

The reason here given is undoubtedly the true one, for no disaffection in the church is known to have existed. Other reasons there might have been; he had considerable knowledge of the law; was already a skilled physician; was perhaps turning his thoughts towards politics and anxious to enter into its discussion. Though he had been loyal to his

church, yet he was suspected of being "Presbyterially inclined," by some, and he may also have begun to hold silent opinions about government and those in authority, which were openly avowed in the time of Sir Edmond Andros. Men do not often suddenly change the established opinion of a life without some preparatory consideration. Most of those in our own profession who have departed the faith have been grumblers, discontented men, or unsuccessful practitioners; the leaven has been some time in working.

As he could not continue in his pastoral work, he naturally turned his attention to those parts of business for which he was most fitted. He was a magistrate, and doubtless discharged his duties faithfully. He was a physician, of great learning and skill, and was extensively employed. He became a politician, but not a brawling or openly active one, but a writer who confined his labor to his closet, in the writing of books and pamphlets. He must have regained his health somewhat, for his legal, his medical, and his political business must have absorbed a large share of his time; his industry was wonderful. There has come under my observation since this paper was commenced at least a bushel of his books and manuscripts. His books, mostly in Latin, are either copies from printed volumes, or of his own composition. The writing is generally clear, very minute, and filled with abbreviations and symbols, which renders the reading of the same rather tedious. This is a small part of what he left, but is of itself an illustration of his great industry.

Mr. Hoadly is correct in saying "he was never robust." It may have influenced him in leaving the church at New London in 1665; it certainly did so in his giving up the pastoral charge at Wethersfield in 1676. In his letter to the Honorable Robert Treat and others, 1689, called "The People's Right to Election," he commences by saying, "I am at this time (by reason of bodily Infirmary) unable to wait upon you in a suitable manner, or maintain discourse as this Occasion may require," etc. And in his will, dated May 26, 1712, he says that he has "much more than twenty years walked upon the very mouth of the grave, under so great infirmity that I cannot but wonder how I have all the while escaped falling into it." There is, I have heard, no portrait of him existing, nor any description of his person. He

may be pictured, if we please, as spare in body, moderate in height, delicate and scholarly in appearance, quiet and gentlemanly in his demeanor. He was decided in his opinions, as most of the men at the time were; he may have been "litigious," as Mr. Trumbull calls him, but then he was a lawyer; he did write "Will and Doom" with a very pointed pen, but it was the way that he and many others thought, and he had the courage of his convictions. There is not sufficient warrant for the saying of Rev. Dr. Palfrey, that "he was always a discontented and troublesome person." Had his character been such, he would not have preached occasionally after he had been dismissed from New London, nor would his "advice and direction" have been desired at Wethersfield in securing a successor; and it militates against this opinion also, that he was requested by the General Court to aid in quieting the religious strifes which were so frequent and shameful in some of the towns. A notorious quarreler is not generally selected to quiet a dispute. By no pretence can the alleged law of *similia similibus curanter* be applied to him in these affairs. I do not say of him *natus componere lites*, but for all that appears he compared favorably with the colonists among whom he lived. He was a high tory; he believed in the divine right of kings; he appeals constantly in "Will and Doom" to the king's favor, as if by that the colonies' charter was vitiated, and only by his will could it be restored; he had no sympathy with democracy. He had no sympathy with that revolution which had displaced a James and brought forward a William.

While he was no brawler about the country, he quietly, in his study, gave his political ideas to the public; they were, therefore, well known, and, as he and his supporters were in a decided minority, they were regarded as "discontented and troublesome persons," and so this opinion came to be applied to him especially, as he was the chief among them.

When we find that the colonial authorities, following the revolutionary example of their brethren at home, had thrown off the government of Sir Edmund Andros, and had resumed their charter, he announced it as unwarranted and against the king's laws; "we can find no law but Will and Doom; *sic volo, sic jubeo, stat pro ratione voluntas.*" The young German Emperor seems to have been taught in the same school.

I am aware that this may seem a digression, but no sketch of the life of any man can be perfect which does not include his whole character. His parts were varied and very diverse. Commencing his public life as a clergyman, he was at different times a physician, a surveyor, a lawyer, a politician; he was no mean man in whatever he undertook. He was a clergyman whose services were desired in both the towns in which he officiated. The magistrates requested his services at various times in the troubles of the colonies, in adjusting disputes, in serving in the army, in dealing with Major Andross at Saybrook. His abilities were readily recognized. He was so highly regarded that Major Treat was directed "to take special care of Reverend Mr. Bulkly," in the Narragansett war. It was not till the resumption of the charter in 1689, that he began to fail in public favor. Then, denouncing the authorities, refusing to take his seat among the deputies to which he had been chosen, denying that he was a freeman of the colony, though he had been admitted as such, he became the object of resentment and depreciation. There was a war of pamphleteers, in which his learning, and perhaps his combative inclinations, found full employment. After a while, when the ferment in men's passions had been allowed to subside, he seems to have lived a quiet life, and devoted himself to the law and the practice of medicine, two opposite and seemingly incompatible professions, but only made so by the foolishness of men, for justice and mercy ought always to walk together.

It is as a medical man that Mr. Bulkeley is especially commemorated by us. Under whose instruction, or by whose advice he commenced the study of medicine, is not known. Perhaps it was from his father, the Rev. Peter Bulkeley, of Concord, for many of the clergy had a considerable knowledge of medicine; but I think it was more from a natural inclination for chemical pursuits, and a desire to investigate diseases and their remedies. He became among the most learned, and probably among the most skilled of the physicians of the seventeenth century. His laboratory was well furnished; his library was large and valuable. He was the most diligent of students, being familiar with Latin, Greek, and Dutch. The numerous books which bear his annotations, and the great number of

manuscripts, either copied or original, bear witness to his indefatigable industry. The cessation from his clerical labors brought no relief from work, or vacant, idle hours; his application was most remarkable. And so it not seldom happens that when the habit of systematic industry is established in early years, and there accompanies it a will which is resolute, and a determination which is steadfast, there is, whatever the occupation may be, a resultant of work so large that the lazy or indifferent man is astonished, wondering where the time can be found to accomplish so much; and I suppose that the laboring man himself, as he looks back upon the years of constant application, may be somewhat astonished himself to find that he has led so active a life.

He was undoubtedly a busy practitioner. There lies before me, as I write, a portion of his day-book for 1688, consisting of twenty-eight leaves, and extending from August 19th to the end of the year. It is six by eight inches in size, faded and stained, and the writing is in a very fine hand. There are charges against twenty-seven persons on the first page, and, while space is generally given to each one by only one line, yet five instances occupy two lines each, and one four lines, and in each case the articles prescribed are mentioned. Thus we obtain an idea of the minuteness of the writing. He was residing at this time in Wethersfield, and most of the patients probably resided in that town. But his reputation was extensive, and others came to him, sometimes from a long distance. Thus, on this page, seven are from Hartford, one from Springfield, one from "the great swamp," the region near New Britain, and the remainder from Wethersfield. Other places specified are, Windsor, Middletown, Farmington, Simsbury, Wallingford, Suffield, Springfield, etc., from which patients came to see him doubtless, for it would have been impossible to have visited all of them (living far apart) on the same day. The charges are mostly for drugs, which were numerous and costly.

He was so regarded for his learning, skill, and integrity, that his opinions were requested in some difficult cases at law. The following is taken from the excellent address of Dr. George Sumner, before this Society, in 1851:

"Mercy Brown, of Wallingford, was brought to trial for the

murder of her son. As it was known that she had been subject to paroxysms of insanity, the court and the jury were in some perplexity relative to their own course of proceeding. To release themselves from this embarrassing position, the court granted leave to the jurors to consult the most learned men in the colony and obtain their advice. They applied to Dr. Bulkeley, whose character as a divine, whose opinion as a physician, and whose judgment as a magistrate, were all held in high estimation. The following is a summary of his opinion: 'If she were not *compos mentis* at the time of the fact it is no felony and consequently no willful or malicious murder; and if she be known to be a lunatic, though she have her lucid intervals, there need be very good and satisfactory proof that she was *compos mentis* at the time of the fact committed, for the law favors life.' The legal opinion from which the above extract is taken was in advance of the age, and probably averted the doom of the unhappy woman who was on trial for the murder of her child."

He was also consulted in the case of Abigail Thompson, of Farmington, accused of the death of her husband. In a fit of anger she threw at him a pair of shears, the point of which, striking him on the head, inflicted a wound of which he subsequently died. The letter of Dr. Bulkeley to Gov. Fitz-John Winthrop, in New London, is of so much professional interest that I transcribe it as it appears in the sixth series, volume five, of the Mass. Hist. Coll.:

GLASSEN: SEPT. 2, 1707.

Sr . . . "I have also since seen more of y^e record beside other information, whereby I find y^t y^e woman's act was in y^e nature of a chance medley, done in a quarrell, upon a sudden provocation; and also y^t y^e man lived 18 days after y^e wound, was up and down, here and there, cut wood, dressed flax, &c., all weathers; and y^t in all this time no care was taken of him by any of his neigh^{brs} or relations, his wound was never searched, no proper means at all used for his cure, nothing but a plaister applyed, w^{ch} skinned it over 3 or 4 days before he dyed; and in fine, nobody abiding in y^e house with them night or day, but he was wholly left to the mercy, care and nursing of that bloody woman, who they knew had wounded him. Hereupon my little sense concludes that y^e wound, penetrating into y^e brain, was indeed such y^t he might possibly dyed of it, but the neglect of it and y^e [illegible] method of cure was such that he must of necessity dy of

them, and tis impossible to make it evident y^t he died of y^e wound. I cannot say y^e wound would have been cured if good means had been seasonably used; but I can say it is probable it might have been cured, because more dangerous wounds of y^e brain than that have been cured. It neither is or can be evident that he died of y^e wound; but I think tis evident y^t he died of corruption, gangrene, and suppuration of y^e wound and brain, through y^e neglect of means to prevent it, w^{ch} in an ordinary way of Providence, might have been done. Tis now endeavor^d to lay y^e fault of y^e neglect upon y^e woman. I cannot excuse her, any more than y^e man or his friends. I think ye all are to blame; but besides else may be said to avoid it, tis certain she was not indicted, or brought to answer, on that account, and we must not indict upon one crime and evidence for another. But I hope yo^r Hon^r will cause y^e matter to be considered and thorowly debated by those whose judgements will be more regarded than my opinion, and give you full satisfaction," &c.

Y^r Hono^rs humble servant,

G. BULKELEY.

The Governor says that "it does difficultly appear to me that she is guilty of wilful murder, but rather manslaughter, as such a sudaine provocation and action could not be premeditated to such a tyme and instrunt, w^{ch} was most unlikely to have that fatal effect." On June 3, he notifies Nathaniel Stanley and others that he had reprieved Abigail Thompson, "the prisoner in y^e gaol, and her execution." It is not clear from any record, I understand, what became of Mrs. Thompson, but there is no reason to suppose that she was executed.

After the dissension caused by the resumption of the charter had subsided, Mr. Bulkeley appears to have retired from political life. Though he was somewhat engaged in the practice of the law, yet he doubtless devoted much of his time to his medical profession, where probably he found as much comfort and usefulness as in any of his previous occupations. For it is undoubtedly true that no physician is in his true element, that is, occupies his true position or gains that true public approval which is becoming, who allows himself to be drawn into the whirl of political excitements, and becomes the ally of political adventurers. But this by no means forbids him his true independence, or excuses him if he refrains from the exercise of his citizenship.

He also was growing old. Seventy years had passed over his head. He was familiar with the history of the colony; he

personally knew many of the men who had established it. He had filled positions of honor and respect as a clergyman in New London and Wethersfield, and in endeavoring to compose the strifes in the religious societies of our fathers which seem fairly to put to shame those of our own. His abilities as a man were universally recognized ; his skill as a physician was extensively acknowledged. Whatever political differences of opinion had existed for a time were now passing away. Andros and Fletcher were quietly dropped from present consideration ; the old charter was again established and obeyed ; a new generation of men were thinking more of the future than of the past. And so it happens in all times and in all places, that younger men, taking the conduct of affairs into their own hands, in our own profession as well as in other vocations, bring to light and develop from the past more than their fathers ever could have done, or ever did conceive. It was at a time of life when, if ever, there comes a desire for peace, and it comes quite as often, perhaps more often, to those who have been in contention, or extremely active, or have been the victims of disappointed ambition. And this is natural, for age generally softens our disappointments and regrets, and, consciously or unconsciously, brings to us a consideration of the great future. His wife had died in 1669. His son Peter had been lost at sea ; another son, Charles, a physician at New London, was also dead ; his youngest son John was the able minister of Colchester, his daughters were happily married, one of them living in his own town, the other across the river in Glastonbury ; and he was receiving the respect which was due to his abilities and his age.

But with declining age came also, doubtless, increasing physical disability. His family must have become very much diminished, for, in those times, men of wealth and position entertained numerous relatives, and were surrounded by a retinue of servants, not always consisting of negro slaves, or Indians who had been reduced to slavery. As far as appears from his will, there were none in his home but his "negro maid, Hannah."

While he was the minister in the town he resided in the parsonage, a short distance north of the church. Afterwards, Judge Adams tells me, he lived in his own house on the east side of Broad Street, a little to the south of the lane leading into the meadow. Here he remained during the latter days of

his life, excepting such time as he spent with his daughter Dorothy, the wife of Thomas Treat. He seems to have regarded her with very tender affection, as well also as her husband, for he made him the executor of his will. It was a home to which he was always welcome, and to which he naturally turned. If the fire upon his hearth was burning low, here was one which was warm and cheering for his comfort. To it he turned himself in these his latter days, for whatever of earthly enjoyment was yet remaining.

His legal residence was still in Wethersfield, for in his will, dated May 26, 1712, he commences it by saying, "The last will of Gershom Bulkeley of Wethersfield (alias G. Bulkeley of Glastonbury), in the county of Hartford, in her Majesties Colony of Ct. in New England, Practitioner of Physick." He had also, in January, 170⁹₁₀, ratified and confirmed a deed made to his son Charles in 1688, and saying, "now resident in Glassenbury," and had also made a postscript to his will "in testimony whereof I hereunto put my hand & seal, in Glassenbury, in the county of Hartford, on the twenty-fourth day of Nov. Anno Domini 1713." So that it appears a considerable time, and perhaps a continuous time, was spent on the east side of the river. He died ten days after this "P.script," and was buried at Wethersfield. His monument is in the cemetery ("burying ground" is the more ancient and quite as proper term), near the "meeting house." Upon the tablet may be found the following inscription:

"He was honorable in his descent, of rare abilities, extraordinary industry, excellent in learning, master of many languages; exquisite in his skill in divinity, physic, and law, and of a most exemplary Christian life."

"In certam spem beatae resurrectionis repositus."

It is especially becoming in us to honor the memory of this our early and distinguished brother, who, at the last, and to the last of his life, with all his varied acquirements, chose to style himself a "Practitioner of Physick."*

* Dr. Bulkeley was the owner of a large library; many of the books were in Latin, which he easily read and wrote; the medical part of it he disposed of as follows:

"Item, to my grandson Richard Treat (the son of Thomas and Dorothy), I give and bequeath all my books and manuscripts, which anyway concern medicine and chymistry, among which I include all Glauber's and Boyle's Books, which I have, whether in Latin or English, as also Georgius Agricola De Re Metallica and Lazarus, each re-translated

There is a manuscript of Mr. Bulkeley in folio, of one hundred and fifty pages, which is mostly written by himself in Latin, and in his peculiarly fine hand; twenty-four pages are written evidently by another person, in a closer and more indis-

by St. John Pettus, called Fleeta Mina, or the art &c. of Metalls; and the same St. John Pettus his Fodine Regales, and such like books, and also Littleton's Dictionary for the Latin tongue, and my Dutch Grammar for the Dutch language, together with my manuscript Dutch Dictionary, which may help him to read and understand Hehwart's Degerend, &c., i. e., the Day Spring, a new resurrection of the art of medicine, which book is in the Dutch language, and together with all my vessels and instruments useful thereabout, of glass, brass or copper, iron, stone, or earth. All these I give to him provided he hold and pursue his inclination to that study, but if by death or otherwise he be diverted or depart from it, then I give them all to the next of his brethren, that will apply himself to the study, but if none of them, then I give them all to his mother (my daughter Dorothy) to dispose of at her discretion or to his father, in like manner, if he survive her."

I do not know whether the grandson or any of his brethren became physicians, but think it very probable that the books, etc., fell into the possession of his mother, and so were not distributed far from the neighborhood. Through the instrumentality of Dr. Sumner, many of them were secured for Trinity College, and some of them were picked up afterwards by different persons. Among these was Dr. William Cooley, who at the time of his death was residing in the southern part of East Hartford, two or three miles from the Treat residence. I remember him when he was living in Buckland; this was in 1829, when I was attending school in Manchester. A visit was made to his house on a Saturday afternoon, to see his collection of reliques and curiosities, which filled an upper chamber. Among them were numerous warlike and domestic implements of our Indians, which he had gathered when he resided in East Windsor. Articles from the Pacific Islands were numerous, and whatever else was old or curious. No modern æsthetic maniac could have been more industrious as a collector of broken teapots or dilapidated furniture. He was the son of Dr. Samuel Cooley of Bolton, and was born May 10, 1782, and died in East Hartford (Hockanum Society), January 10, 1839. Dr. C. F. Sumner says that "he studied medicine with his father in Bolton, and practiced in Manchester principally," and that he "was considered a skilful physician and surgeon." and that tradition says the reason he gave why he did not have as much business as Dr. Warner had, was that Dr. Warner had the best "How do you do."

I think it very likely that he judged himself correctly, for though he was naturally a man of sense, and possessed of a fair share of information, yet he was rough to rudeness in his manners, regardless of time or occasion. Nor was he, as I remember him, when he lived in Hockanum, always reverent in his speech, or dainty in his words. He was at this time much afflicted with the gout, every joint of his hands being swollen and knobby, and some of them were discharging, after they had been opened by Dr. E. F. Reed, of East Windsor. It is easy to understand why his equanimity was now disturbed, but we should wonder more at the friendship which existed between him and Dr. Reed, did we not know that not unfrequently the most ardent attachments exist between the most diverse natures.

Dr. Cooley followed his old inclinations in the collection of reliques, while he lived here, and so became the possessor of some of the books of Dr. Bulkeley. They were of value to him because they were old; it is not likely that he could read any of them which were in Latin, or troubled himself with the difficult chirography of those which were in English, when he had a fit of the gout. After his death in 1839, some of his effects were sold at auction in Hartford, when I purchased a few of the books. The following, from internal evidence, belonged to Gershom Bulkeley, but his name is not in one of them, — all in Latin :

1. "Pharmacopeia Medico-Chymica," Johannis Schroderi, Lugdini, 1649.
2. "Quercetan Redivivus," Francofurti, 1648.
3. "Cerebri Anatome," by Thomas Willis, London, 1644.

Other books were purchased by different bidders, and probably are in Hartford now.

tinct manner, also in Latin, with some quotations in Greek. It is entitled "Prolegomena de Arte in Genere," and commences as follows: "Omna," &c.

It appears to have been used in recording extracts from books, in which he was most diligent; certain pamphlets, one of which was upon "the wonderful advantage by, and right management of *Clover*, by Andrew Yarranton of Ashley, in the County of Worcester, London. Printed for Francis Rae, Bookseller in Worcester: 1663." If it had not about spoiled my eyes in attempting to decipher it, a few sentences would have been here given. Nearly the whole folio relates to medical matters, which are extracted from books loaned him perhaps by our Governor Winthrop. Books were costly and not easily to be obtained, and so he made extracts or a synopsis for reference. Occasionally he sets down in English such hints and observations as he may have learned, some specimens of which are given below, as in the original.

He possessed many vessels and articles used in a laboratory, was fond of making experiments and different remedies; he seems to have belonged to the Chemical, rather than the Galenical school.

"Peaches, if you take & bruise them, & hang them up in a bag, that ye juice may draine out of them, & then set this juice in ye sun as you do with other liquids for that end, will afford you very admirable vinegar, next to wine vinegar. Mr. Simon Bradstreete told me this, July 7, 1670."

pp. 45, 46.

"To make very good vinegar of peaches."

"If a pson be bitten with a Rattlesnake, Take Carduus Benedictus, stamp it & straine out the juice & let ye pson drinke as much of it as he can, & lay ye stamped & strained carduus to ye wound, This will cure him alone, as Mr. Eely of Saybrooke hath experienced both in his son & negro servant as Mr James fitch of Norwich told me July 8, 1670.

"To cure the biting of a Rattle Snake."

"But it will be good, in ye first place, if ye pn bitten be capable, to bind it hard and well above ye wound to stop ye wkge of ye poison to ye vitalls; & also afterward to use some hot fowles to ye wound to draw out ye poison, which will much facilitate & forward the cure by ye Carduus."

"Thus they did to Hugh Calkin (son of Jno. Calkin of Norwich) & by God's blessing cured him quickly."

"Some say of Mr. Pell, that he was wont to say, the best & speediest cure was to stound (not kill) the Rattle-

snake that had bitten any, & with a forked stick, fasten him to ye ground, and cut off a piece of him, and apply warme to ye wound, & so (ye snake being yet alive) piece after piece as fast as need should be, till it had drawne out all ye poison."

The following is from Taintor's Colchester Town Records: 1708. — "At a legall town meeting held in Colchester Aprill the 27th, 1708 then voated to alow two pence for every Ratell Snake that shall Be killed any time between this Date and y^e midell of may next & so to alow for those that have bin killed this spring; and that those who do kill any shall eudence it to one of the townsmen." "1716, may. Josiah Gate killed 18 Rattell Snakes."*

Some years since I received a powder from Maryland, which apparently was composed of the *Carduus Benedictus*, which was said to be a certain cure for the bite of a rattlesnake. The virtues of the remedy have been handed down to us, and it is even now employed, and is as successful in effecting a cure as it was two hundred and fifty years ago. The number of the perfectly inefficient remedies in use, or reported use, against the poisonous effects of the bite of the rattlesnake, are very numerous. They gain credit among the people, from having been employed — it is said — by the Indians. But it is a matter of doubt if the North American Indians, before their acquaintance with Europeans, employed any medicines internally. The late Dr. William Tully thought they never did. It

* It is evident that rattlesnakes were quite common in the early years of the colony. Though not numerous now, they are to be found in many localities in the state, and are killed more or less every year. This snake, and the red adder or copper head, *Trigonocephalus contortrix*, are the only poisonous reptiles to be found in New England. The bite of the latter is often said to be more fatal than that of the former, but this is not correct, and it is doubtful if any well-attested death has ever occurred from it. The symptoms are very serious and distressing, and death seems imminent, but as far as is known to me, and I have kept the matter in mind for many years, it has never occurred. The poor patient has usually been dosed very freely with some alcoholic stimulant, which has been as good treatment as could have been prescribed. Ammonia, which has been so useful in snake bites elsewhere, would probably have proved equally efficacious. The aim should be to keep up the action of the heart, which is almost paralyzed, and the use of any diffusible stimulant is proper. So many recoveries occur after perfectly valueless remedies are given, that we might conclude the sufferers would survive if nothing was done; but the great distress, the difficult breathing, the swelling, and the maculated appearance of the skin, call loudly for active treatment; *anceps remedium quam nullum*. But the bite of our rattlesnake, *Crotalus durissus*, is quite another affair, and too often proves fatal, though not always. A certain specific against the bite of this snake, and against the bite of the dog who has the genuine *rabies canina*, may be found when further investigations are made.

should be remembered that, before the settlements in Massachusetts, the whites had sailed along that coast, touching at several places, and could easily have taught the natives the internal use of medicinal agents. When the Europeans came into the Bay, the medical knowledge of the Indians was chiefly confined to the use of means for sweating, and the incantations of their doctors. The more violently they danced and gesticulated, the greater was the expected success. The poor patient sympathized with the perspiring sorcerer, and felt bound to perspire with him. As he lay, wondering at the exertions of his trusted friend, he resolved to second him with all his resolution; the mind cure practice of our day is equally efficacious. With all our knowledge and boasted civilization, there is still a wonderful amount of heathen observance and belief among us.

That disease which Cotton Mather says swept off nearly nineteen out of twenty of the Indians, a short time before the landing of the whites, is now believed to have been the small-pox. Of course small-pox does not originate *de novo*; the germ is needed to give it a start. The vessels sailing along the coast carried these germs, either in infected clothing or in living bodies, and thus the disease was readily communicated to the natives when they traded with the whites. The internal use of remedies could have been learned then.

“A Receipt agt ye wind Collicke, sent by (my now ^{Against the} ffather in Law) Mr. Charles Chauncey, then of Situate, Wind Collicke. May 3, 1648, to my own ffather Mr Peter Bulkeley of Concord, for my mother who was wont to be much troubled with ye wind Collicke. The Recp. is this. When she hath the fits in any extremity, Take a thicke toste of white bread, toste it thorwly & leisurely on both sides browne; in the meane time heate half a pint of muscadine or somewhat more (or for want thereof, of sacke) in a pewter dish upon a chafing dish of water, very hot, and put ye dry toste into it, & let it drinke up as m^{ch} of ye muscadine (or sacke) over ye coales as it will receive, & let this toste be applied as hot to her navill as she can possibly endure it, & let it ly on till it be cold. Muscadine (if it can be gotten) is more effectual than sacke, & never failing in ye disease, yt I could find; but ye other (viz. sacke) gives speedy ease, through Gods blessing.”

“Wolfes gutts cleansed from ye filth, then washed over and over in odoriferous wine wherein wormwood hath

been boiled, dry them in ye north wind, one dram of ye powder of ye guts, so prepared in 3iij of wine or more (after a clyster given) is an excellent remedy for ye extreme paines of ye wind Collicke.

Wind Collicke. “R. Wolfes flesh, salt it, 3i thereof dissolved in aqua hysterical & epilepticl q. s. is no less effectual against hysterical fitts, the pty then wearing a little piece of ye same about her. Bro. Jn^o ex Edward, 1671. in his letter to Bro.

Wounds, Ruptures. “Mouseare is admirable to heal wounds, inward or outward, as also Ruptures. p. 47.

Spleene, Coughs, consumption of lungs. It helps swellings of ye spleene, coughs, & consumption of ye Lungs.”

Violent paine in the stomach & bowells together with invincible costiveness. “R. Elicampane, Licoras, brimstone & burnt allum, of each an equal quantity, powder them & mix them with a little sallet oile & Rume to the thickness of an electuary, & take ye quantity of a small nutmeg, it is a singular remedy for ye violent paine of the stomach and bowells accompanied with invincible costiveness, loosen ye body & ease the paine when nothing else yt could be gotten would do it, *uti scripsit pbatum a Josepho Nash Hartfordiensi fabro,* a quo accepi.*”

Both these receipts I recd of Mr. Edward Palmes who knew ye p^a cured at Milford pr ye flux both white & red. “R. a nutmeg, rost it in the flame of candlewood, then bruise it to powder, and with some Rye meal & the white of an egge make it up into pills.

“R. Eggshells, dry them in an oven after ye breade is drawne or ye like & powder them & thicken some milk with them, & let ye patient eat it.”

pr palpitacione Cordis. “R. a wine cup of Baume water in ye cold still drawn from ye herb a comon wine cup full, & of Brandy one spoon ful in ye morning fasting: Then for breakfast two hours after take springwater a pint, and dip in it a good slice of manchet: what bread & water you please thus soaked eat for breakfast, at dinner do ye same & at supper also. *pr palpitacione Cordis prbatur, ex propria experientia Mri. Thomae Thatcher ecclesiae 3^{tiae} Bostoniensis (in N. A.) Pastoris, qui superaddit*, Thus was I in three dayes by Gods blessing freed. Thus have I done twice since I came to Boston, & if I have any fit at night, I take ye water and brandy in ye morning. I used no drugs. This receipt of Mr. Thatchers I received from Mr. Bradstreete of N. London under Mr. Thatchers owne hand, this 3, 5, 1672.

Galls, swell'gs & wounds, goarings &c. excellent^{ssj} ma remediū. “It is reported of ye juice of nightshade, that is an absolute remedy for all galls, swellings and wounds, (as ye galled backs of horses, goaring, &c.) whether new or old

* So he did not refuse to receive information from a blacksmith.

though wourne to the bone, as hath been proved by experience. This I had from Enoch Bucke.*

“R. Creame and chalke boile y^m to an oile in an eggeshelle. This is to cure ye nose inwardly sore, & ever so done when all other meanes availed nothing. Dutch gentlewoman M^{rs} Varlaet yt sometime lived at Hartford: as M^{rs} Willard affirms. Probatum. p. 59.
Sore nose.

“The root of scabius dried & powdered effectually cleanses any ulcer, whatever ye putrefaction be of flesh or bone, etc. Mrs. Boner.”

DANIEL PORTER.

Dr. Porter, it is said, was licensed to practice in 1654, but I find no record of the same in the proceedings of the General Court. He resided in Farmington. October 4, 1655, there is found the following:

“This Courte orders that Daniel Porter shall bee allowed and paid out of the publique Treasury as a sallary for the next ensuing year the sum of six pounds, and six shilling a journey to each town uppon the river to exercise his arte of chirurgerie.”

On two subsequent occasions, in 1656 and 1661–2, the same salary was voted to be continued. October 14, 1669, he was granted 100 acres of land, which his grandsons, Daniel and Hezekiah, afterwards received. In May, 1671, the General Court voted as follows: “For the incouragement of Daniel Porter in atending the service of the country in setting bones, &c., the Court doe hereby augment the sallary from six pounds a year to twelve pounds p^r annum, and doe advise him to instruct some meet person in his art.”

In 1672, the proprietors of Waterbury, eighty-four in number, took possession of the land within the limits of the town, and ordered a division. The estate of Dr. Porter was increased, in this way, to £118.

Dr. Porter appears to have been regarded especially as a “bone-setter.” There is no record with whom he pursued his studies, but, as he was licensed, it is presumed that he possessed some qualifications for practice, and had some of that skill which is claimed to come from natural ability. He died in 1690, and left a son, Daniel, Jr., who also enjoyed the special family reputation. Dr. Bronson, in his excellent history of

* Enoch Buck was an inhabitant of Wethersfield, and was not unfrequently under the doctor's care, as shown in another book.

Waterbury, where the son lived, says that in 1696 he is called a "bone-setter," and may have taken up the business after the death of his father, and that "his knowledge appears to have been empyrical, rather than scientific," in which respect he was too much like some other practitioners in the colony. Several of the family, for a number of generations, appear to have taken up the profession in the same easy way.

NICHOLAS AUGUR.

Nicholas Augur was early a physician in New Haven. It is not known when he commenced his practice of medicine, nor with whom he pursued his studies. That he was fairly educated may be presumed, and also that he was a man of some consideration, from the fact that he has in the record the prefix of "Mr." to his name. Like poor Tray, he was found in bad company in April, 1644, which, in consideration of his profession, may be called an accident. In connection with eight other delinquents, he was brought before the court "for a drunken disorderly meeting at the prison on a Lord's day att night, where they drunke 3 bottles of sack containing 3 quarts, and 2 quarts of strong water besides ; were fined every man, according to the quality and aggravation of his offence." Mr. Augur's share of the entertainment cost him five shillings, the court probably not considering his*plea, if he made it, that he was there on professional business. As he was the only gentleman present we may conclude that he paid not too dearly for being in such company.

The lesson for Mr. Augur was undoubtedly a good one, for in August of the same year he took the oath of fidelity, and it is hoped attended strictly to business afterwards. The court in New Haven had no consideration for the state or position of any one who was criminal or disorderly, but executed the law with strict impartiality. Even the wife of Governor Eaton came under the animadversion of the Court.

In 1653 a "war had been propounded against the Dutch," and provision had been made to some extent for carrying it on. But it came to naught, which cannot be said of the cost of preparation, for "the Court was informed that Mr. Augur and John Brocket haue spent much time in pviding things for the

souldioers if they had gone out to warr, many of w^{ch} things being made vp will bee loss to them, a note whereof Mr. Augur presented to the court, amounting to fiue pounds twelve shillings, and desired the court to take the things, and paye him for them, or to alow him forty shillings for his time and loss in them and he would keepe them. The court considered his pposition and agreed rather to paye him forty shillings than to take the things, and ordered y^t he should have so much paide him out of the treasury." But for John Brockett they made no promise of payment, "but left it to the magistrats of New Haven to agree wth him as well as they can, and to alow him as they see cause." John Brocket was a resident of Wallingford, and was appointed a "surgion" with Mr. Augur. He was probably of no great acquirements, but was useful to a certain extent, as many other men are, under more active and capable leaders. When Mr. Pell, Mr. Westerhouse, and Mr. Augur were freed from watching, "William Judson and John Brocket propounded that they might be freed also, but the courte saw no cause to grant it." He was in the affair with the Narragansetts, and in the absence of Mr. Bulkeley he was employed to dress the wounds of the soldiers. The Court allowed "fowerteen shillings p weeke apiece to the chirurgions Mr. Bracket, Mr. John Hull, Sarg^t Warde, and Mr. John Olmsted."

Dr. Francis Bacon says of Mr. Augur that "he experienced great difficulty in collecting his dues, a difficulty not entirely peculiar to himself, or to the time in which he lived. He was discouraged nearly to the point of throwing up his practice, or at least of threatening to do so." But the General Court comforted him, and declared "if Mr. Augur see cause to bring any of them (his debtors) to the Court, it will be witnessed against as a wrong to the public that a physician should be discouraged." This was in 1660, and he remained in New Haven until he sailed for Boston, in 1676, and was afterwards wrecked "upon a dismal, doleful, rocky island, and perished."

In Dodd's East Haven Register it is said, "that he was a learned physician of New Haven." In his will he mentions his sister Esther Coster, and his brothers John and Robert, and Nicholas the son of John, and the youngest of John's sons.

Dr. Bacon says that "Mr. Augur's small property went mainly to his sister, Mrs. Ellen Costar." There was a town

meeting held at Guilford, "to consider whether the inhabitants would buy Mrs. Cosster's Physic and Physical drugs, and was answered by a unanimous vote that they would buy them," and they were to be paid for by a town rate. This was July 3, 1679. At another meeting, a few weeks later, "Lieut. Wm. Seward was chosen and appointed to fetch or procure the Physic and Physical drugs bought of Mrs. Cosster, brought to Guilford, and deliver them into the hands of Mr. Joseph Elliott, for the town's use."

There appears to have been another physician in New Haven, in *William Westerhouse*, a Dutch merchant, who took the oath of fidelity in 1648. Atwater says that "the acquisition of Westerhouse was additionally pleasing, because he was not only a merchant, but a practitioner of medicine." He had some trouble arising from the "selling of stronge watters by small quantities, contrarie to a courte order," by John Laurencson and his wife. He said he knew not that it was a breach of order, and she sould it for Mr. Westerhouse. John was fined 20s. and was told "if they go on in this way it is not twice 20s. that will excuse them." Dr. Westerhouse, or, as he is sometimes called, Westerhusen, "by Mr. Evanc his interpreter, acquainted the courte that he knew it not to be an offence to the courte that he imployed any to sell his stronge watter, but seeing he had done it, he justified the courte in the fine they had laide, and he came to tender the payment. The courte look not vpon it as his fault, but seeing he would pay it, the courte considering how vsefull he hath bine in the towne, by giveing phisicke to many persons, and to some of them freely, the courte agreed not to take the fine but returned it to hime againe." This gentle tribute to the professional acquirements of Dr. Westerhouse would hardly excuse the dispensers of "stronge watters," or lager beer, in our day. The unlicensed dealer would find that his plea of free distribution of sulphate of magnesia, or compound cathartic pills, would be of no avail against a fine, and, unlike the jurisdiction at New Haven, he would discover that the fine would not be returned.

The only other mention that I can discover relating to him, in the New Haven Colony Records, is concerning litigation about his mercantile affairs, which are numerous enough, even for a colony which was specially desirous of engaging in traffic.

At a General Court, held at New Haven, March 22, 1653, "The Governor read to the court sundrie propositions made by Dr. Chayes, a French physitian, to w^{ch} the court returned answer that they will allow no sallary, for the other they object not, but if hee please to goe on in his practise they shall be willing to imploy him as they see cause." This is all that can be learned concerning him from the New Haven Colonial Records, those for the years 1650-1 and 2 being lost. But Dr. Bacon states that he made his first appearance in the colony in 1651, when he wanted a salary and a house. The people were much taken with him, and "were moved to extraordinary efforts to secure so valuable an accession to their community." Such things have happened in later days, when the pretensions have been greatly magnified; a short acquaintance has found these men traveling elsewhere. Dr. Chayes seems to have wished for more money than he could obtain, and, after some "chaffering," went away.

Governor Eaton, with that paternal attention to minute affairs which seems to have been characteristic of him, had, in 1650, mentioned to the General Court that Mr. Besthup, a surgeon or physician, had lately passed through the town to the Dutch, and suggested that some means should be used to secure him. The Governor appears to have been taken with these peripatetic physicians, but this one remained in town but a short time, seeking, like the tribe generally, pastures fresh and new.

In 1654 the Governor was desired to write a letter to John Winthrop, inviting him "to come and live at Newhaven, if he doe remove from Pequott." He was especially desired as a physician, and did remove and live there for about two years, when he went to Hartford. More will be said of him further on, but this is the proper place to introduce the following from Livermore's Republic of New Haven, p. 104: "In 1656, Mrs. Finch of Westchester, came to New Haven, and rented a house, in order that her lame child might have the benefit of John Winthrop's surgical skill. The town interfered, and voted not to let her stay, unless some approved person offered himself as her security. Mr. Goodyear and Sergeant Jeffrey performed that kindness for her."

While the town was very desirous of securing Mr. Winthrop as a resident, it was also very careful to see that Mrs.

Finch should not become a public burden, the probability of which does not appear from record. The colonists were more careful about the admission of inhabitants than we are at this day.

Another physician in New Haven was *Dr. John Rhode*, who was a native of Prussia. He came there about 1756, and married the widow Tyler. In the expressive language of *Dr. Bacon*, she was "a very desirable widow, four times a widow before she became as the angels in heaven." He died January, 1775, and was followed by *Dr. Bonticou*, who succeeded not only to the practice of his predecessor, but to his widow also.

The New Haven colony was united to Connecticut in 1665, and I find no further records relating to medical men.

PETER BULKELEY,

The son of Rev. Peter of Concord, and younger brother of Gershom, was born June 12, 1643. He went to Fairfield, married and settled there, and was by profession a physician. His will was dated March 25, 1691, and was probably made shortly before his death, so that he was in the forty-ninth year of his age when he died. He appointed his "beloved brother Gershom Bulkeley his sole executor." After distributing his estate, he adds "all the other estate I leave it wholly to my executor, whether physick or other household stuff, and as above so the house and land."

RICHARD WILLIAMS.

In that most learned and graphic "Account of the Medical Profession in New Haven," by *Dr. Francis Bacon*, mention is made of the "inducements offered in 1687-88, to Dr Richard Williams, then living at Hartford, to remove to New Haven." He consented, and, perhaps, satisfied their requirements, as "their need was great." But, as too often happens, when men feel that they are conferring a favor, they heaped upon him other honors of doubtful value, desiring to obtain a return for their investment, and so they chose him as a constable in 1692. Now a constable was a man in authority, and like all colonial authorities, was to be respected. The dignity of the office was great, and its acceptance was not lightly to be discarded; it represented the law, and its representative was the terror of evil

doers. He was not merely confined to the serving of writs, but I suppose also assisted in the administering of punishments, and these were not always pleasant duties; the whippings in the colonies were frequent. It having been found that there was no way to "constrayn" town officers to accept the places to which they had been chosen, constables among others, the General Court in 1668 enacted that if such persons "should neglect or refuse to accept of any of the sayd offices to which they are chosen . . . they shall paye five pounds fine to the towne treasury where they live."*

Though occasionally a person had declined the office, and had refused to serve, yet he was expected to attend to the duties if no good excuse was offered, or was only released upon the payment of a fine. Probably our doctor had a proper sense of his honorable profession, and so obstinately refused the election, for which he was fined forty shillings, and very obstinately refused to pay it, and never did pay it as far as is known.

1687. — *Mr. Charles Bulkeley* was granted "full and free liberty to practice phisick." He was a son of Rev. Gershom Bulkeley; was born in 1663, and settled in New London. In 1687 the county court "grants liberty unto Mr. Charles Bulkeley to practice phisick in this county, and grants him licence according to what power is in them so to do." He died young, and left one child. His father speaks of him as "deceased," in an instrument dated December 2, 1709.

NATHANIEL WADE.

May 9, 1695, the Court, "upon petition of Mr. Nathaniel Wade that this Court would grant him liberty to practice phisick and chirurgery, the Court having had sufficient certificate of the said Wade, his good abilities and prosperous successes in his former practice doe see reason to lycenss and grant him liberty to practice physsick and chirurgy in this colony and desire the blessing of God may accompany his endeavores." It

* "At a Town meeting, Jan'y 14, 1683—

"The Town by their vote appoynted the present townsmen to provide suitable supplies of wood and provisions for goodman Randall & his wife whoe are at present lame & ill & not able to provide for their necessity and allso to get a chirurgion to take care and dress him & they are to imploy the forfeitures due from those that have refused to serve as constable this year in the service and the rest that is necessary the town must supply." — *Hartford Town Records*.

is evident that he had, like many of the medical men in the colony, been a practitioner before he was licensed. Mr. Hoadly, in a note, says that he represented "that he was educated at the College in Cambridge, though his name does not appear among those upon whom degrees have been conferred there, and presented recommendations from Rev. Israel Chauncey and James Pierpont. He was now an inhabitant of New Haven."

Very likely he had studied with Mr. Chauncey, who was himself a physician residing in Stratford, and that Mr. Pierpont had certified to his knowledge of him when in New Haven.

I find no further reference to him in any of the Colonial Records, nor does Dr. Bacon speak of him in his History of the Medical Profession in New Haven, but think, from the good wishes which the General Court bestowed upon him, that he must have been a man of character and ability. However, while these may be presupposed, they are not always warranted by recommendations.

JOHN FISK.

At this Court also, "the same priviledg and liberty is granted to Mr. John Fisk." Mr. Hoadly says, "that he had practised medicine for several years in Wenham, Mass., but was now settled at Milford." He may have been in practice for some time previously, for in 1702 he "informed the Court that he hath received a considerable wound in the former Indian warres, and therefore requesteth that this Court would release him from the paym^t of countrey rates for the future, it is therefore ordered, that said John Fisk be freed from paying countrey rates for the future, viz., during his natural life," which was a moderate method of giving him a moderate pension. We have some further knowledge of him in the case of Dr. Laborie, who had a difficulty in collecting a bill, and the opinion of Dr. Fisk was asked, with others, whether or not the charges were unreasonable. This was in May, 1708, and the doctor, in the resolute discharge of his duty, did say that he thought "the bill to be very unreasonable and extravagant," and as the other brethren were of the same opinion, and that it was "above £30 more than any honest practitioner would have

charged," Dr. L. withdrew his case from court. This honest discharge of duty must commend itself to us, for whenever we are called in court for our opinion as experts, the most solemn obligations are resting upon us. Our sympathies may lie in one direction, but our duty lies in a very plain and direct way. While nothing should be over-stated, nothing should be withheld. Too much condemnation cannot be given to those men who are willing to sell their opinions for that side of a case in which they happen to be called.

The seventeenth century closed with the addition of a large number of towns to the colony. Instead of the three original ones of Windsor, Hartford, and Wethersfield, there were now as many as thirty, and while no census had been taken the population was supposed to number ten thousand souls. The first settlers were dead, or most of them, and their places were supplied by men who, not striving merely for existence, were increasing their trade, extending their commerce, and were better supplied with the necessities, and luxuries even, of life. The spirit of the young men was more adventurous, and they were more desirous of mingling in the activities of the world. Though the fear of their natural enemies, the Indians, was not wholly lost, yet the horrible dread of them was partially allayed. So accustomed had they become to these foes, that they had learned to be fully a match for them in their conflicts. Thanks to the energetic measures of their fathers, they were much reduced in numbers, or driven to a distance from their centers. Many were killed with resolution. some they exported to Virginia or the Indies, and of some they made slaves at home. They had no hesitation in compelling them to work, or in whipping them for misbehavior. The spirit of the noble red man was broken, and he indulged in theft and drunkenness, like some of his conquerors, and shared his punishment equally with them. To be sure, there were alarms and destructions in the frontier towns, but the older settlements quickly responded to appeals for help, and the dangers were soon passed. The new settlements kept up their watching and warding, and lived in a lesser way the early lives of their fathers.

The dread of the Indians and the conflicts with them lived, however, in story, and lasted for many generations afterwards, and unruly children were forced into quietness by threats of their

reappearance. But the settlers were becoming strong, and their young men were ambitious. They were desirous of more land, and made excursions across the mountains to see what lay beyond them. Bishop Berkeley's historic lines, "Westward the star of empire takes its way," was forced into their minds, before it had been expressed in verse. The civilization which had started in the East has only been completed in our day, by the barrier of the ocean on the west. The household tales about the aboriginal inhabitants, which were current enough in my youth, are now wholly gone, or are to be heard only in our western bounds.*

The medical profession felt this change in common with the other inhabitants; it was the legitimate result of forces which ever bring the ambitious men of a country into a like thought and mode of action. As the population became more numerous, and the openings for enterprise and fortune were increased, the physicians were increased also, and they were now to be found in nearly all the towns. The means of education were now diffused, and those who wished could enjoy more easily all its benefits. The opportunities for improvement had been increased in some directions by the conflicts with the Indians

* Our colonists were in earnest in all their dealings with the Indians, whether in fighting or christianizing them. Eliot and Wheelock, and afterwards Brainerd, were actuated by a holy zeal for their interests, which has only been equaled by the like labors of the saintly Bishop of Minnesota. Unfortunately, notwithstanding all the labor and expense, the Indians have continued to decrease in numbers, until, it is supposed at the present time that there are less than fifty thousand of them within our limits. The failure is due to the inherent defects in the Indian character. While a few have become tolerably successful as farmers, or mechanics, the great majority prefer an indolent life in a blanket, about as regardless of the future as their fathers were. It is a melancholy showing, but does not excuse us from laboring for their welfare. One cannot but admire the self-sacrificing zeal and earnest desire for the welfare of the Indians, which is rewarded with no greater encouragements. It was an earnest desire of the colonists to instruct and christianize the Indians. Capt. Mason, who was an instructor among the Mohegans, succeeded in imparting to them some of the rudiments of learning, and was probably about as honest as a majority of the present Indian contractors. Efforts were made to teach the Indian youth in Farmington, and there is no reason to doubt the purity of the motives, or the earnestness of the purpose. Col. Adam Winthrop of Boston, Treasurer in New England of the Society for the Propagation of the Gospel in New England, writing to Gov. Talcott, says "the Commissioners are ready to give all proper encouragement to the Indians therein mentioned." A youth of eighteen years was the special object of their desires, hoping that he will be "bro't up to grammar and even college learning, with a resolution to become a minister to the Indians, and in that case, if you will order him to be furnished with homespun coat, jacket and breeches, two shirts, stockings, shoes, and hat, after the English fashion, and send me a bill of cost, it shall be answered." With a becoming prudence, Col. Winthrop adds to his letter, "If the Indian youth does not desire to be bro't up to learning, and to be a minister, he is not then to be clothed in the English fashion, but only to have the largest blankets."

and their cruel allies, the French, and they had to some extent become acquainted with the progress which medicine was making in the eastern world. The occasional physicians who had received their education in Europe were centers of instruction to those with whom they associated.

It is ever to the credit of our profession that we have been willing to learn. The contrast in practice between two hundred and fifty years ago and our own time, shows that we are not so bound to old ideas or ancient methods that we are unwilling to change when better ones are presented for consideration. If we do not accept the vagaries and idle speculations which are often published to the world, it is because they are destitute of reasonable belief, or are only the doctrines which were common centuries ago, and have been long exploded. The conservatism of the profession comes from close observation, and learning, and experience; its judicial mind is ready to receive from all sources that which is good and equally ready to condemn that which is bad. The charge which is brought against us of bigotry was never more misapplied, and has no justification in truth. Our teachings and practice favor all liberal investigation, all searching for truth, and acceptance of truth. This was never more manifested than at this day, when the brilliant discoveries of patient investigators have done so much for the public good. Though some few have always been found who have disbelieved for a time, yet the great body of medical men have nobly assented to the newly presented ideas. It is to them, the patient workers in their calling, that we may trust for encouragement and aid to all that promises to increase the public health; it is a jury of sensible men, whose verdict is sure to be in the right direction.

SAMUEL MATHER, JR.

In the same year, "upon the recommendation of the Reverend Mr. Samuel Mather (of Windsor), Mr. Thomas Hooker (of Hartford), and Mr. John Fisk, this Assembly doth license Mr. Samuel Mather, Jun^r of the town of Windsor to be a practitioner of phisick in this Colonie." He was a graduate of Harvard College in 1698, and was a physician of much respectability, and Stiles says, "after a life of professional usefulness, during which he held various civil and military offices of trust and honor, he died Feb. 6, 1745, in the sixty-eighth year of his age."

THOMAS HOOKER.

1684. — "This Courte doth approve and allow of Mr. Thomas Hooker to goe on in the practice of phisick, and that a copy hereof under the Secrety's hand shall be his warant for the same."

Mr. Hooker resided in Hartford; was a son of Rev. Samuel Hooker and grandson of Rev. Thomas Hooker. He was involved in a suit at law with Oliver Noyes of Boston, and was committed to the gaol in 1716. He was allowed by the kind-hearted jailer, Meekin, more liberty than his creditor desired, who, by his attorney, Mr. John Read, complained that the "said Meekins has removed the said Hooker out of the limits of the said goal, and often suffered him to walk the streets," so the Governor and Council ordered that the justices of the peace and the assistants should enquire into the matter, and if found to be true, discharge the goaler, appoint another keeper, "and take care that the said Hooker be taken and kept by him duly confined in the said goal as the law directs."

With two others, he was surety for Joseph Baccus, a newly appointed sheriff for Hartford county, in 1726, to the amount of two thousand pounds. He may have been a man of substance, and so able to satisfy the law in case of the failure of his principal; but if not, he was assuming more risk than a professional man with a family, and dependent wholly upon his professional income, ought to assume, and which too many of our brethren have had cause to regret that they ever did assume.

THOMAS HASTINGS,

Son of Dr. Thomas, of Hatfield, practiced medicine and surgery, sometimes in Hartford. [See his bill against Jonathan Bigelow, 1722, as "chirurgion," in Crimes and Misdem^r, 2, 242.]

He mar. at Hatfield, 1701, Mary Field (a gr. dau. of Zachary, of Hartford and Hatfield), and had 14 children. His son Waitstill was a physician. [J. H. T.]

He probably is the Thomas Hastings who says he is a "licensed physician" and "certifies, that for two years time he has given Thomas Thompson at Farmington sundry directions in y^e mysteries of physick and chirurgerie, & doe find

that y^e said Thompson hath made a considerable progress in said arts, & withal finding him to be very careful in his practice and administrations doe judge him to be a man as likely to doe good in said mysteries as any man I know of that is not advantaged with college learning,

Farmington March y^e 29th, 1703."

This certificate is supplemented by another from Dr. Samuel Porter, himself licensed 1720, "that I do judge the above said Thos. Thompson has a considerable insight in the art of physick and chirurgery, and has for many years practised the same art with good success in his administrations. Farmington, May the 12th, 1721."

This certificate I found some years before it was used by Dr. Sumner, in a junk shop in Hartford. That receptacle of everything which can again be made into paper, and of all other things which have been preserved by prudent owners, only to be dispersed by busy housewives, is even now made to yield up precious treasures, to be again preserved, and again to be gathered into the omniverous bag of the Italian ragpicker.*

Why Dr. Thos. Thompson needed these repeated certificates, —one so long after the other, —is not very clear. Perhaps he desired to depart for other fields, and needed frequent boostings

JOHN BULKELEY,

was the youngest son of Rev. Gershom Bulkeley, graduated from Harvard College, 1699, and was ordained and settled at Colchester, 1703, and was distinguished in theology, in law, and in medicine. His father says in his will, "besides what I have otherwise done for him, to the utmost of my ability, I have already given the greatest part of my books and my silver pocket watch, . . . and besides what I may and shall yet do for him ; I give and bequeath to him all the rest of my books and manuscripts written by my grandfather, my father, and others, I say all such my books and manuscripts as con-

* Not long since I found in one of the above shops a fine edition of Kunkel's "Observationes" &c., Frankfort 1677, and also of "Kerckringii Commentaries in Curram Triumphalem Autimonii Bassilli Valentini, Amstelodami, 1671." Both these were in Latin, and in good preservation, but the savages who had sold them to the dealer had despoiled them of their covers, as these were valueless to the purchaser. That is the method of these heathen. On the first page is this inscription: "E libris Tho: Grainger 1710."

cern only divinity and other learning, except the law and except also medicine and chymistry, and some few other books which with those that concern medicine and chymistry, I shall otherwise dispose of by and by."

Rev. Dr. Chauncey says of him, "by all that I have been able to collect, the Colchester Bulkeley surpassed his predecessors in the strength of his intellectual powers." He had twelve children, whose Christian names are repeated through several generations; eight of these were living at the time of his death.

I find in the Bulkeley Genealogy the following anecdote: A church in the neighborhood had fallen into unhappy division and contentions, which they were unable to adjust among themselves, and he was appealed to for advice. He had a farm in the extreme end of the town, and sent to the tenant one letter, and to the church another; they were misdirected, and the moderator read to the assembly as follows: "You will see to the repair of the fences that they be built high and strong, and you will take special care of the old black bull." This was provoking, but an interpreter said, "Brethren, this is the very advice we most need; the direction to repair the fences is to admonish us to take good heed in the admission and government of our members; we must guard the Church by our Master's laws, and keep out strange cattle from the fold, and we must in a particular manner set a watchful guard over the devil, the old black bull, who has done so much harm of late." All perceived the wisdom and fitness of Mr. Bulkeley's advice, and resolved to be governed by it. The consequence was that all animosities subsided, and harmony was restored to the afflicted church.

He made no will, but his children made an agreement, dividing the estate July 17, 1773, and this was probably not long after his death. Dr. Sumner says that his son John was a lawyer and physician of great reputation, and was appointed a judge of the Supreme Court very young.

JAMES LABORIE.

In 1710 there was trouble with the French, in Canada, and Connecticut was desired to raise three hundred men to serve against them. "Her Majestie has been pleased to order an expedition to be made against Port Royal and Nova Scotia," for

so reads the Whereas, etc., and, as dutiful subjects, the colony was disposed to obey. There were some old accounts unsettled against our northern neighbors, and among the recent ones was the unsuccessful expedition of the previous year. "Dr. James Laborie and Doctor Samuel Mather were appointed to be surgeons for the said forces." Dr. Laborie had been employed in the expedition to Canada in 1709, for which the Assembly allowed him "three shillings and sixpence per day, as money, for his service done for the colony, as doctor and surgeon for the army in her Majestie's service at the Wood creek, the last year."

In 1707 he brought a suit against Lewis Lyron for attendance upon his wife, for which payment had been refused; the amount was £59 2s. The details of the case are given at length in Dr. Sumner's address. It is especially notable that four physicians from Boston thought it to be "considerably above £30 more than any honest practitioner would have charged"; and Dr. John Fisk thought "the bill to be very unreasonable and extravagant." With two such unfavorable opinions, notice was given to the court that the case was withdrawn.

A minister, as chaplain, was always an important member of the warlike expeditions of our ancestors. Mr. Samuel Whittlesey of Wallingford had been appointed as chaplain in this last one against Port Royal. Perhaps he did not attend, and, as a good doctor is supposed to be a minute man, ready at all times and for any occasion, Dr. Laborie stepped into the vacant place, which he filled satisfactorily, as the following will show:

March 10, 1710-11, "Ordered that Dr. James Laborie be paid forty shillings by the treasurer, for his good service as chaplin on board the transport *Brigantine Mary*, in the expedition to Port Royall, and that it be sent to him by the Governour."

He was allowed ten pounds a month, in money, for his service "on the present expedition against Canada, and that he shall have a suit of the regimental cloths gratis." Dr. John Copp was allowed six pounds a month, and a regimental suit also. The Assembly "concluded to have three phisitians or chirurgeons to go with our regiment," but, as only two could be obtained, permission was given that two suitable persons might be chosen by Dr. Laborie and Dr. Copp to assist them,

and that they should be paid twenty shillings a month each. The young Sawbones throughout the colony, students in the medical art, were doubtless glad to secure such an opportunity for instruction.

I find no further reference to him in the Colonial Records, but something might possibly be added if a local search could be made. It is fair to conclude that he was a man of character and ability.

JACOB REED.

In the expedition against Canada in 1709, the Assembly "appointed Doctor Jacob Read of Simsbury, Mr. Duran of Derby, and Mr. Wheelar, of Stratfield, to be the chirurgeons and phisicians," and Dr. Reed was to be paid five shillings per day for his wages, in country pay. "And this Assembly grants lycense to the said Jacob Read to practice physic and surgery." This shows that he had been in practice previously, but, like most of the physicians then in the towns, he had never obtained a license. The only notice I find of him in Phelps' History of Simsbury is that of his name, which occurs among those taxed for ministers' rates in 1701.

The town records of Windsor show that June 5, 1702, £12 were paid to Dr. Jacob Reed, of Simsbury, and Obadiah Hosford, for the case of Mary Gaylord.

He died Dec., 1709; "returned home to his own house (in Simsbury) sick, from the army, and lay sick for five weeks at his own house upon charges."

In his inventory are these entries:

In phisical books,	£2 9 6
In phisical instruments,	2 19 0
In phisical medicaments,	6 0 0
In Gallipots and wt was in them,	12 0
In Gasses and physical matter,	2 9 0
In Divinity books,	8 0

JOHN COPP.

Like most of those applying for a license, John Copp had previously been in practice for some time, and probably possessed an average amount of skill. The selectmen of Norwalk judged "him to be a safe and conscientious man, and have ex-

perienced considerable good by his administration among us." "Safe and conscientious" are good recommendations for a physician always, and are not to be forgotten in these days, when "novelties disturb our peace," and our recognition is demanded for absurd theories and little-tried remedies.

I have mentioned that he was appointed as surgeon, with Dr. Laborie, in 1710, in the expedition against Canada. He was also a schoolmaster, as were others of the brethren, and was also deputy to the General Assembly in 1706, and added to his other employments that of surveyor.* He evidently was well thought of in his own town, and that consideration is to be desired by all of us. It is well for a physician that his foes should not be those in his own household. The politicians recognize this when they are looking about for candidates.

OBADIAH HOSFORD.

In 1712, Dr. Hosford, mentioned above, applied for a license, which was supported by testimonials from Gershom Bulkeley and Samuel Mather. Both of these gentlemen had heard about him, but "knew nothing" or very little; the latter approved his being an allowed physician from "the good acceptance he had among his people, and by what he had gained by reading and experience." The very guarded expressions in the testimonials are worth noting, and are good examples for us to follow, whenever we are desired to certify to more than we really know.

PHINEAS FISK

was a clergyman at Haddam in 1714. He graduated at Yale College, 1704, and was a tutor in that institution. Rev. Dr. Field says that he was a man of great respectability and excellence, both as a divine and physician. "He was uniformly regarded as a gentleman of science, and as an excellent and serious character; and his name is precious among the people of Haddam and of the vicinity to this day." He was the son of Dr. John Fisk of Milford, and probably studied medicine with him, and was among the notable clerical physicians of the colony. He probably died about 1728.

* In the instructions to the Commissioners for running the boundary line between Connecticut and New York, dated Sept. 23, 1730, mention is made of "Edmond Lewis and John Cop, Esq^s, Surveyors."

FURTHER LICENSES BY THE GENERAL ASSEMBLY.

1698 — SAMUEL WOOD, of Danbury.

1711 — MR. EBENEZER PROUT, of Wethersfield.

1711 — MR. DANIEL HOOKER was directed to "attend the said service [against Canada] in the capacity of Doctor."

1717 — BENJAMIN HULL, of Wallingford, licensed to practice physic Oct., 1717. His petition in "Civil Offices" &c., 1, 40, shows that *orthography* was not among the "arts and mysteries," which he had cultivated with success. He was perch. the son of Dr John Hull of Derby, b. 1672. [J. H. T.]

1717 — SAMUEL HIGLEY, of Simsbury, licensed physician and surgeon May, 1717. His petition was at first negatived by the lower house, but afterwards reconsidered. He is believed to have been a son of John Higley, one of the first settlers of Simsbury, who married Hannah Drake of Windsor, Nov. 9, 1671. His sister b. 13 March, 1667, married Joseph Trumbull, and was the mother of the first governor Trumbull.

In his petition for license he states that he had received "more than common education," and "being employed three years in keeping school, did improve all opportunities in the study of physick and chirurgery;" for the two years last past, he had studied and practiced under the instruction of Dr^s Tho^s. Hooker and Sam^l Mather, — whose testimony to "his abilities & progress in the theory and practice of the art of physick and chirurgery," accompanied his petition. [See Civil Offices, &c., 1, 37, 38.]

In 1728 Dr. Higley petitioned the Gen'l Assembly for the exclusive right to manufacture steel, for ten years, "having with great pains & costs found out & obtained a curious art, by which to convert, change or transmute, common iron into good steel," &c. His petition was granted, on condition that he and his associates should prosecute the business, and bring it to "reasonable perfection" within two years. The experiment probably proved unsuccessful, as nothing more is heard of it.

In 1737 was struck the coin to which tradition has assigned his name, and which is now so highly valued by collectors.

[J. H. TRUMBULL.]

1720 — SAMUEL PORTER, of Farmington.

1722 — JOHN HARPIN, of Milford.

There was an epidemic of small pox at New Cheshire in 1732, which spread extensively, and was not recognized, "until Dr. Harpin came and told 'em it was."

1722 — MR. JONATHAN BULL, of Hartford. Dr. Sumner says of him, that "he pursued the study for seven years with a physician in Boston, and on his return to Hartford commenced the practice. . . . His manners were courteous, his opinions were held in high estimation, and his advice was sought for by those who needed his counsel in every part of the county." He built a house on the east side of Main street, near the corner of the present Sheldon street. I remember the very venerable appearance of it, and the large cluster of lilac bushes on its front.

1732 — WARHAM MATHER, eldest son of Rev. Eleazer Mather of Northampton (who married Esther, dau. of Rev. John Warham of Windsor), was born Sept. 7, 1666, grad. Harv. 1685; settled in New Haven.

Dr. Warham Mather's bill against the town of New Haven, 1732:

"The Townsmen of New Haven Dr

For 36 visits, and 126 doses and advice for James Canner, a stranger, boarded by them at Paul Cornwell's, between Nov. 22, 1732, and March 1, 1733. His ails, a diarrhea, and hectic disposition, sometimes a quotidian, sometimes a tertian. On the whole

£6, 9. 4.

Wareham Mather." [J. H. T.

1733 — URIAH ROGERS, of Norwalk. He had been an apprentice to Dr. Jonathan Bull of Hartford, and had practiced in Norwalk. Dr. John Copp and Daniel Chapman said that "his practice has been full and large, his success very good, his behaviour grave, modest and obliging, and he seems to be well acquainted with distempers and medicine."

1734 — DR. JAMES LABORIE of Stratford says, "that he has been in the practice of physick for many years under the conduct and direction of his father, who was a gentleman well known of great skill and practice, and since his father's death hath well approved himself therein to good satisfaction, and being desirous for the future to practice under the allowance of this Assembly," etc.

His father was the Dr. Laborie of whom mention has already been made.

1737 — MR. JONATHAN ABBOTT, of Ridgefield.

1740 — DR. SAMUEL WALTER, of Saybrook.

The British government having declared war against France, the New England colonies entered with spirit into the expedition to Cape Breton, and laid siege to Louisburg. Connecticut was well represented, and under great difficulties, the city was taken. Though the British ships rendered valuable assistance in preventing succors from the French, yet most of the planning of the siege, and most of the fighting, was done by the colonial troops. They certainly were very proud of their success, and while awarding praise to the commander of the fleet for his assistance, yet believed that the conquest was mainly due to themselves. How it was regarded at "home," is well shown by what Horace Walpole, in his gossiping letter to one of his friends, says, "Our Commodore Warren has taken Louisburg."

EXTRACTS FROM VOL. IX, COL. RECORDS, ABOUT CAPE BRETON,
1745, MARCH.

"This assembly does hereby appoint Mr. Normand Morrison to attend the forces going from this colony on the expedition to Cape Breton, as their Physician and Chirurgeon, and that he be furnished with a box of medicines and complete set of instruments suitable to such an occasion, at the charge of this colony."

"Mr. Alexander Wolcott appointed surgeon's mate."

"Joseph Farnsworth appointed surgeon's second mate.

"Leverett Hubbard appointed physician's and surgeon's third mate.

"Resolved etc., That the wages of the physician and surgeon shall be per kalendar month, £45.00
Physician and surgeon's first mate, 30.00
Physician and surgeon's second mate, 25.00
Physician and surgeon's third mate, 18.00
and that the physician and surgeons have one month's wages advanced to them."

"Upon the memorial of Doct^r John Hart of Hartford, representing that he hath been in quality of physician on board of the sloop Defence, on the expedition against Cape Breton, and

that the fifteen pounds per month heretofore proposed, to be allowed such physician, is, as he conceives, no meet recompense, and praying such addition as to raise it to 25 l. per month, as per his memorial on file, etc." He was allowed twenty pounds per month. Oct., 1745.

1746, "May, John Wentworth of Norwich was allowed seventy pounds, old tenure, for the loss of one of his eyes, by a shot, in the expedition at Cape Breton."

James Fitch "representing that he served in the quality of a physician to the souldiers of this colony garrison'd at Louisbourg the last winter," etc., prayed for allowance, and was ordered to "be paid thirty pounds, old tenure, for each Kalendar month."

1747, May, Benjamin Wheat, administrator on the estate of Richard Tozer, deceased, showing that said Tozer served as doctor under Doctor Morrison at Cape Breton for a considerable time, and praying "for some satisfaction for his services, was awarded thirty pounds per month (including the wages the said Tozer, or any in his behalf, hath received, as soulder and clerk) for his service as doctor at Cape Breton."

Dr. Benjamin Avery was one of the colony's agents in London, and he was directed to pay several sums from money which he had received "for the expenses of this colony in taking Cape Breton."

JARED ELIOT.

He was the son of Rev. Joseph Eliot of Guilford, and was born November 16, 1685. He graduated from Yale College in 1706, and was for many years one of the trustees of that institution. He was minister in Killingworth from 1709 to the time of his death in 1763. Among the inducements to settle there was the following: "At a Town Meeting held in Killingworth, Nov. 25th, 1708; the Town do agree to give Mr. Jared Eliot, when he, the said Jared Eliot, shall marry, or have a family, sixty loads of good firewood a year." The Rev. Thomas Ruggles, who preached his funeral sermon, says, "His person was well proportioned; he was favored with an excellent bodily constitution; idleness was his abhorrence, and every moment of time was filled with action by him. Perhaps no man slept so little in his day, and did so much in so great variety; his endowments of mind were no less superior than his bodily vigor."

These personal details are pleasant, and explain to us how he was able to accomplish as much as he did, by a judicious use of his time; he was always robust, and never idle. Dr. Thacher says that "he was very industrious and methodical, and was peculiarly careful that whatever he undertook should be well executed."

But it is as a physician that he is most extensively known. His reputation was very great, and he was especially distinguished for his successful treatment of chronic complaints. Thacher says of him : "In these he appears to have been more extensively consulted than any other physician in New England. frequently visiting every county of Connecticut, and being often called in Boston and Newport." It is not known with whom he studied our art, but, being of an apt and inquisitive mind, he doubtless had made himself familiar with medical books, and with the experience and conversation of physicians. A man constituted as he was is likely to make himself acquainted with any subject which he takes in hand. He was a botanist, a practical agriculturist, a correspondent with literary and scientific men both in this country and in Europe. He was a faithful minister to his religious society, striving if possible to be with his people on every Sunday, so that it is said of him. "for forty successive years, he never omitted preaching either at home or abroad, on the Lord's day." And above all, and as good as all, he was a distinguished and faithful physician. Such multiple duties could never have been carried out, except by one in the possession of the best of health and of a most resolute mind. The truth of the saying that the busy man is still the man for more business, was well illustrated in him. It was said of him by Mr. Ruggles, that "he was liberal; as a physician, he did much without charge; but while he scattered, he increased, and, being a man of business talent, he acquired a large amount of land, which proved a source of wealth to a large family."

He was, without doubt, among the most distinguished of the clerical physicians of the colony; he seems to have possessed a good share of common sense, that most necessary qualification for a successful practitioner. I hoped to have obtained some of his account books, from which much might be learned of

the diseases which he treated, and of the remedies which he employed; but none of them could be found.

It is to be presumed that he pursued a more rational treatment than prevailed in previous years, for the rising men in Europe were investigating disease more closely, and were putting aside the cumbrous prescriptions of their fathers. Boerhave. and Sydenham afterwards. were felt wherever the English language was spoken, and learned physicians were to be found in all of the colonies. If the news of new theories and new remedies did not travel as fast as at present, they still made their way steadily, and were subjected to careful investigation.

At a meeting of the New Jersey Medical Society in 1766, there was communicated to it by one of the members, Dr. Ayres of Newport, a copy of "a celebrated nostrum of the late Doctor Jared Eliot of Connecticut, under whom Dr. Ayres had several years studied. He had seen it given, and had often given it himself with great success in many cases, particularly dropsies and hysteric cases, from relaxation." Dr. Ayres was not very solicitous about the levigation of the glass, but, administered frequently, not very fine, he never knew any bad consequences from the use of it, except when given at first in too large doses. As Dr. Eliot was quite celebrated in the treatment of dropsies, the recipe is submitted, as follows :

"Electuarium stomachicum, anti-hydropicum, vel hystericum specificum, D. D. Elliot, novæ anglîæ

Pulv. Rad. Gentian } an ʒi.
Curcum. }

G. Myrrh ʒ ss.

Glacci com. ʒ iiss.

Cons. Rosar, vel absynth, q. s. of Elect."

The Curcuma is an aromatic stimulant, used now principally for dyeing yellow; the Glacci is common glass. It is rather surprising to us that serious diseases could ever have been cured, or supposed to have been cured, by such a combination, and we should be more surprised still if we did not consider the cures which are said to be effected by almost every proposed remedy, and by almost every person. The Turmeric we should suppose to be of no efficacy, and that it was used only to give a coloring to the electuary. Wood says, "in former times it had some reputation in Europe as a remedy in jaundice and other

visceral diseases," but this it had probably, and only, from its resemblance in color to the liver or the bile.* I do not find any reference to or mention of Curcuma in the Pharmacopœia Collegii Londini of 1682, nor in the supplement to the New London Dispensatory, 1683, by that arrant quack, William Salmon, although he gives the formula of an Electuarium Stomachicum, consisting of twenty-eight ingredients, mostly aromatic stimulants, together with such powerful remedies as sweet almonds, calamus, avens, and elecampane.

The opinion of the society was expressed as follows :

"The Society taking the above medicine into consideration, were greatly surprised at the accounts, but judged it not prudent to recommend the use of it without more authentic proof of its success."

By the kindness of Mr. George E. Elliot, of Clinton, I have before me Mr. Eliot's Thanksgiving Sermon on the taking of Cape Breton, a small pamphlet of twenty-six pages. It was delivered at Killingworth, and printed by the desire of his parishioners. It is most patriotic in tone, and aims to show "God's marvellous kindness in what concerns the late expedition," and is a very creditable production.

And also another small pamphlet, "An Essay on the Invention, or Art of making very good if not the best IRON, from Black Sea Sand," a most ingenious production, for which he received a gold medal from the Society instituted in London for the Encouragement of the Arts, Manufactures, and Commerce.

And further, a reprint by the Massachusetts Society for promoting Agriculture, of "Essays on Field Husbandry, wrote from a Journal of thirty years experience," published in 1747. This is a most valuable and interesting production, and is good reading in our day. It shows how far he was advanced in cultivation and drainage, what views he took of scientific agriculture, and the fairness with which he relates his experiments, whether successful or not.

The funeral sermon of Mr. Ruggles is without doubt a true delineation of him. "As his genius was penetrating, so he had

*"For example, the *Decoctum ad Ictericos*, of the Edinburgh College, which never had any other foundation than the doctrine of signatures, in favor of the *Curcuma* and *Chelidonium majus*."—Paris Pharmacologia, Vol. 1, p. 47.

a great and peculiar sagacity in discerning and judging in relation to the things and affairs of this life."

I need not apologize for speaking so much of his extra professional labors, for by these we thus obtain a more accurate knowledge of his life.

"He was well-proportioned" and robust dignified and grave; "always active, always bright and pleasant, charming and engaging was his company, accommodated to every person, under every circumstance; he was a good preacher in a proper sense, — no minister's preaching, take it in the whole compass of it, was more useful and profitable to his hearers." But we most honor him as a physician, and as a physician he has become the most renowned. "After he had instructed many, and physicians became more numerous, he left off the practice of riding out of town, — by his practice in physic, wherein he chiefly prepared his own medicines, he was naturally led into the knowledge of the principles of chemistry, in which he was considerably skilled." He was also a good botanist. "As a physician, he rode much, and often alone; he therefore, to improve his time profitably, made trial of reading on horseback," and, it is said, was sometimes so absorbed in his book, that the stopping or grazing of his patient beast was unnoticed.

He was a most kind and affectionate husband and father; in his *Essay on Agriculture*, he speaks of what his son had done experimentally, and of what his son had told him, all in the most natural way, and as if they both were in full sympathy. With a numerous family, a plentiful fortune, liberal in his house, courteous, generous, given to hospitality, we have those elements which are sure to bring happiness, especially when "he was always humble and condescending, plain and manly in his whole behaviour."

The funeral discourse of his friend and neighbor, Rev. Thomas Ruggles, was a labor of love. We are reminded, in reading it, of another clergyman living at about the same time, a member of the Church of England, residing in the southern part of it. The gentle, enquiring spirits which dwelt in Jared Eliot of Killingworth, and in Gilbert White of Selborne, were very much alike.

He had eleven children, three of whom became physicians, and one, Hannah, was married to Dr. Benjamin Gale.

Mr. Hoadly has kindly sent me the following extract from a letter of Rev. Jared Eliot, dated Killingworth, June 3, 1729 :

"The last week, in this place, a man at his work was troubled with a fly that attempted, and, notwithstanding all his endeavors to avoid it, entered his ear and went so deep that he could not reach it. It continued for some time, and then came out of itself. He quickly found the inconvenience of the spawn there lodged; the pain and tumult in his head grew great and almost intolerable, but was soon eased by thrusting into his ear a feather dipped in warm oil. There came out 40 maggots. This was in May, 1729."

DR. NORMAN MORRISON

was a native of Scotland, was educated at the University of Edinburgh, and came to this country probably not long after 1733 or 4.* Dr. S. B. Woodward, who wrote the sketch of him which appears in Williams' Medical Biography, says that "he first settled in Wethersfield, where he remained about two years. He then removed to Hartford, and soon gained a high reputation for medical science, and practical skill as a physician.

. . . Like Eliot, Dr. Morrison was a thorough and diligent scholar, had a valuable library, and did much in that day to inspire his pupils with a taste for reading, and encourage systematic and regular practice. The benefit of his labors in instructing a class of pupils of unusual eminence was widely diffused, and its influence can hardly be said to have ceased at the present time. Those of the present century who knew him or knew of his fame, bear testimony to his great accomplishments as a man and a scholar, and to his superior eminence and judgment as a physician. Among his pupils were the celebrated Dr. Osborne of Middletown, Dr. Wolcott of Windsor, and Dr. Farnsworth of Wethersfield."

A patient in Hartford under his care, wished him to meet a Dr. Andrus, a self-taught but shrewd, ingenious man, little acquainted with books, who had picked up in various ways considerable knowledge, particularly by his acquaintance with the

* Dr. Woodward says "about 1740"; and Dr. Sumner says, that "having completed his medical studies, he left Glasgow for this country in 1736." But I find that he "owned the covenant" at the First church in Hartford January 18, 1735-6, and that "a son of Mr. Normand Morrison was baptized" on the same day. Now, if he "first settled in Wethersfield, Conn., where he remained about two years," before removing to Hartford, he probably came to this country near the time I have specified.

Indians in the neighborhood, denominated the "Farmington tribe." Wishing to have a little sport with him, he sent Andrus a note in the Latin language, of which he could make nothing, and so took it to Rev. Mr. Williams, afterward president of Yale College, who readily interpreted it for him. As he was familiar with the dialect of the Indian tribe, he returned an answer in this tongue, which was as much of a puzzle to Dr. Morrison as the Latin message had been to Dr. Andrus. When the latter appeared at the appointed hour, he was requested to interpret his own note, which was done, much to the satisfaction and good feeling of all. As Dr. Morrison often told this story afterwards, there is no reason to disbelieve it, for men do not often relate incidents against themselves, unless there is something of truth in them, and also if they do not possess that good nature which will sustain them in relating a story which tells against themselves.

In March, 1745, he was appointed "to attend the forces going from this colony on the expedition to Cape Breton, as their physician and surgeon." After the reduction of Louisbourg, he was requested by the general assembly in August of the same year, "to continue in his office of physician and chirurgion for our forces during their stay in garrison at Louisbourg, and he is directed to take into his care and keeping the chest of drugs, and the doctor's instruments that are now at Louisbourg." He was granted "the sum of fifty-five pounds old tenour per month for the future, during the time he shall be improved in the colony service at Louisburg." His previous salary had been forty-five pounds per month.

He probably was fond of the military service, for in June, 1746, the general assembly appointed "Dr. Norman Morrison of Hartford, to be second lieutenant of Capt. William Whiting's company of foot to be raised in this colony for the expedition against Canada." Afterwards, at the same session, he was appointed "to be improved as Chief Physician and Chirurgion, in the same expedition," and served therein. After his return, in October of the same year, he petitioned the assembly "that further reward might be allowed him, from the great burthen that was cast upon him in his undertaking in the said service," and so the sum of sixty-five pounds per month was directed to be paid him.

His name appears in the Colonial Records several times afterwards, in suits at law, the last being in 1760, "on the petition of Norman Morrison, and Ann Morrison, his wife." Dr. Sumner says "he was the first man in the colony who separated the practice of medicine, and encouraged the establishment of an independent apothecary in this [Hartford] city." Without doubt he was a man of great professional ability, and was highly regarded in the town. Many years ago, when I was inquiring of one of our oldest inhabitants concerning former physicians in Hartford, he named as one of them, Norman Morrison. He might have been a few years of age at the time of his death, and spoke of him as a notable man.

He resided on the east side of Main street, near the present Cheney building, and his garden extended as far east as Market street.* His son was attacked with the small-pox, and was ordered to be removed from the family of the father to the pest-house, as the story used to run, and there he died. Dr. Morrison was greatly grieved and incensed, and buried him in his own garden, and there by his side he was buried himself, and directed that the grave should be enclosed and forever preserved by all future occupants of the property," and there it is to this day, surrounded by a fence of iron. When St. Paul's church was built, regard was had to this provision, and the graves were not covered by the building, though the walls are set as near as possible to it. The large slab which covers the remains is about six feet in length by three in breadth, and lies horizontally upon other stones, about a foot from the ground. It is of sandstone, and not of marble, as might be inferred, and is in pretty good preservation. The inscription is in both Latin and English, as follows :

"Hoc sub marmore condinuntur reliquiae Normani Morrison,
Qui Æ budis natus & Edinae educatus,
Medicus nemini secundus,
Conjux, frater, pater & Amicus,
Inter praestantissimos ;
Moribus facilis, egentibus liberalis,

* Mr. Nathan Starkweather, who has examined the deeds, and surveyed the property, says that the house, probably built by Dr. M., stood about three or four rods north of the present Temple street. The lot when purchased by the doctor, comprised two acres, and extended a short distance across the present Market street. The house has been removed to Trumbull street, and is the wooden building just north of the Charter Oak Bank.

Omnibus benevolus & beneficus, atque
Christianus sine fuco exditit,
Multum desiderandus obiit.
9no Id Aprilis 1761 Annum
agens 55^m."

“In English, literally as follows:

“Under this Marble are Buried the Remains of
Norman Morrison
Who being born in the Western Isles of Scotland
And educated at Edin^r
Lived a Physician Inferior to none,
An husband, brother, father and friend
Among the most excellent,
In manners gentle, to those in need liberal,
Kind and beneficent to all, and
A Christian without deceit.
He died much loved and lamented
the 9th of April 1761 in y^e
55th year of his age.”

Dr. S. B. Woodward says that he "died in Wethersfield of an epidemic pneumonia, at the house of his friend and pupil, Dr. Farnsworth, who was first severely sick under the care of his celebrated instructor. After Dr. Morrison was attacked with the disease, he predicted the recovery of his friend, and unhesitatingly declared the certainty of his own death, both of which events occurred in exact fulfillment, as to time and circumstances, as he had foretold." The time of his death is stated in Williams' Medical Biography to have been 1791, which is clearly a typographical error; and also that he was 71 years of age, which must be another error. For although Dr. Woodward says that he was born in 1690, yet this must have been an error also, for his tombstone gives his age at time of death as 55 years; and though tombstones frequently lie abominably as regards sentiments, they are pretty sure to be correct as to figures. His wife, and several of his children, who were alive at the time of his death, must have known his correct age.*

* Dr. S. B. Woodward was for many years an able and prominent physician in Wethersfield, until he took charge of the Massachusetts Hospital for the Insane at Worcester. His abilities were great, his manners pleasing, his habits sober and industrious. His acquaintance with medical men was extensive, and he was informed, either from his own knowledge, or by the older physicians then living, of the "great country doctors."

THE CASE OF DAVID ROBINSON.

Those who think that insanity was extremely rare, or almost unknown among the early colonists, are mistaken, for applications were made to the General Assembly for relief for insane persons, or for permission to sell lands of such, and for idiots also. Because there was no public provision for their care and cure, they were subjected to great hardships, and too often to great cruelty. If our humanitarian ideas had not improved in any direction, except in the treatment of these two classes, it would still have shown how much better we are informed than were our ancestors.

Our fathers were surrounded with difficulties, and yet felt their duty to these afflicted persons. I quote from the Records of the Council held at Hartford, October 17, 1712, to show what was done with a troublesome case :

“It being made evident to this board that David Robinson of Durham, who hath been for some time much distracted, grows outrageous in his words and actions, and cannot, without great hazard to himself and others, be suffered to go at large: Ordered, that Samuel Eels, Esq., Mr. Jonathan Law of Milford, and Mr. James Wadsworth of Durham, they or any two of them do agree with some good and skillful physitian (if any such can be had), to take the said Robinson into his care and cure; and they or any two of them, are hereby impowered by warrant under their hand, to cause the said Robinson to be put into the hands of such physitian.”

The committee were directed to report to the General Assembly in the succeeding May, but probably did not find the needed physician, and so the matter came again before the

who had practiced in Connecticut. His father was a physician before him, at Torrington, a man of marked character, of extensive practice, and well-known both in and out of the profession. From him he must have learned much, and much also from other old men who were fast passing away. So from his acquaintanceship, his talents, and a disposition specially fond of investigation, he was exceedingly well qualified to give to the public those sketches of medical men who had lived in the State, which have become so valuable and interesting. Few writers of biography have given us better or more pleasing pictures of the men they have described. He wrote with a clear and bold hand—a very model of neatness and accuracy; there was no need that an apothecary should ever misunderstand, or be graveled at his letters or the characters in his prescriptions.

If all the sketches which he furnished for publication were gathered into a volume, with the addresses of Dr. George Sumner, Dr. Rufus Blakeman, Dr. Ashbel Woodward, Dr. Henry Bronson, Dr. Charles F. Sumner, and Dr. Francis Bacon, it would form a collection of great value, and such information concerning the profession in Connecticut, as could nowhere else be found.

Governor and Council February the 4th, 171²₃, when the following action was taken:

"It appearing to this board that David Robinson of Durham, a person manifestly bereaved of his understanding, and so much out of the government of his reason that he cannot be suffered to go at large without hazard of his doing mischief, which he frequently threatens, to the persons and estates of the neighborhood where he lives, going for that end armed with dangerous weapons, and there being reason to hope that if he be placed under a proper care and discipline, and kept to some suitable labour and a course of physick, it may be a good means to bring him to a right exercise of his reason. Ordered," &c., that he should be delivered to the "keeper of the goal in the county of Hartford, and a precept given to the keeper of the said goal to receive the said Robinson into the custody of the said goal, and there to provide for him, and keep him to such work and under such discipline as he shall receive order for from any one or more of the assistants," etc.

Robinson's case now becomes interesting. It was before the Council again October 28, 1718. He had now been insane for six years, and perhaps longer. Whether he had ever been placed in the gaol, and kept at labor and physick, does not appear from the colonial records, though perhaps an examination of those of the county court might show it. But information came to the Council that he had, "for a considerable time, behaved himself in a very evil, and often times in an outrageous manner, to the great disturbance of the quiet of his majesties subjects," etc. So it was ordered that he be committed to the gaol of Fairfield county, "and governed there as the law provides in case of such disorderly persons."

The Governor and Council learned November 30, 1719, that no action had been taken upon the previous order, and as Robinson was "carrying arms about with him and threatening the lives of several persons, resolved that the said order be forthwith executed," and it was probably executed. But the gaols were not very secure, and prisoners often made their escape. He appears to have been at large subsequent to November 30, for on January 25, 1720, it was —

"*Resolved*, That David Robbinson of Durham, who of late did dangerously wound and attempt to murder the minister and

his brother, of said town, and who is now in goal in the county of Fairfield, be put in irons suitable to prevent his breaking goal & committing the like mischief for the future," etc.

In May of the same year, the General Assembly informs us, "Whereas the Rev. Mr. Nathaniel Chancy & his brother, Mr. Isaac Chauncey, both of Durham, have been wounded by a person under distraction, as has been generally supposed, viz. David Robinson of the said Durham, now in custody as a distracted person in the gaol of the county of Fairfield," etc., it was ordered, that the superior court should take cognizance of the case, "and make such orders for his subsistence and safe keeping as they shall judge necessary, till he may be recovered to the use of his understanding," etc.

The "irons" probably kept him from breaking the gaol in Fairfield, but in May, 1723, it was "represented to the Assembly by his Honour the Deputy Governour, that David Robinson, who by his distraction was committed a prisoner to the goal in Fairfield county, has so far gained the favour and respects of divers people in that place as that he is released from his close confinement and has the liberty of the town, and his rude and disorderly behaviour proves offensive to the good people of the town," etc., and he was ordered to be removed to the gaol in the county of New Haven or to some other suitable place."

But in August of the same year, the Council found that "he has broken loose from his confinement, and by some means or other got at liberty, and behaved himself with such fury & outrage as to disturb the quiet & peace of many of his majesties subjects," etc., it was ordered that he be, without delay, taken into custody and be committed to the gaol in New Haven," etc.

In October the General Assembly took further action, and directed that as he has "broke out from confinement, and roves about with arms from place to place, any justice of the peace may cause him to be taken to the goal in the county of New Haven," but that he might, under certain conditions, have the liberty of the town of Fairfield.

In November of the next year, 1724, "the Governor being informed by a letter from Capt. James Wadsworth, Esq., that David Robinson had lately broke the gaol at New Haven and was now at Durham, and his said Robinson's children do earnestly desire they may be admitted to give bonds for said Robinson's

peacable and good behaviour, and being further informed by Capt. Wadsworth's letter that the Reverend Mr. Chauncey of Durham is free a bond should be taken for said Robinson's good behaviour; and also Capt. Wadsworth signified that he thought well that a tryall might be made upon what proposed by bond as above. Whereupon it is resolved, that it is not proper to direct or proper to order anything contrary to the act of the assembly concerning the said David Robinson, but that he be restrained according to the act of said assembly."

In May, 1728, he was again found at liberty, and "his rude behaviour is such that it is very much to the disquiet of some of his majesties subjects," whereupon it was ordered again that he should be committed to the common gaol in New Haven.

At the October session in the same year, upon the representation of Reverend Mr. Chauncey of Durham, that Robinson had made an attempt against his life, and "did continue in the like disorder of mind and tokens of malice," it was now ordered "that the said Robinson shall be allowed to abide in his own house at Durham & within the confines of his own farm, on which the said house stands," and the order that he should be confined in gaol be suspended; during his continuing within his own farm. He probably was becoming more tractable, and Mr. Chauncey, pitying his sad condition, and as may be judged from the "willingness of his children to give bonds for his good behaviour," and the opinion of Capt. Wadsworth that "a tryall might be made upon what [is] proposed by bonds," the assembly became more lenient, and (1730) "observing that divers persons in this Colony have formerly been sentenced to perpetual confinement in some or other [of the goals of] this Colony, there being then no other suitable place of confinement for them, "it was directed that they shall be removed to the work-house at Hartford," etc. It was further ordered that David Robinson "shall be sent to work-house aforesaid . . . there to be confined and improved according to the order of the house."

This is the last that appears of David Robinson in the records of the General Assembly; and it is to be hoped that he rested in "peace & quietness" for the remainder of his life, at the workhouse in Hartford, and that he was only kindly "improved," during his residence there.

The history of this case has been given at much length, as

much in the words of the statutes as possible, that we might understand how our ancestors managed this undoubted instance of insanity, and what agencies there were at that time at their service in the colony, for the care and cure of the same. He was a man of some consideration and substance, for it was directed that his property might be used for his necessities during his confinement; and he was one of the patentees with Mr. Hezekiah Talcott, Jr., Joseph Seaward, and others, "inhabitants & proprietors in the township of Durham," etc., and for additional lands. He was perhaps the son or grandson of Thomas Robinson of Guilford, who had "a long & angry controversy with the town," and with William Stone. The special cause of the insanity of David does not appear, but the excitable and controversial spirit of his ancestor may have descended to the son, and laid the foundation for that cruel disease which afflicted him for so long a time. For twenty years or more he had been a "distracted" man, had wandered about the colony, threatening divers persons, and had assaulted Rev. Mr. Chauncey and his brother, had been subjected to repeated imprisonments, from which he repeatedly escaped, unless confined in "irons," and subjected, as all such persons, whether insanè or idiotic, were, to hootings and revilings, and ill-treatment generally. No wonder that he himself was angered, and his diseased condition rendered worse. For very safety he ought to have been restrained, and was restrained, as far the narrow means of the colony would permit; there was no place of confinement whatever but the common jail; the "authorities" used all their possible power, and are not to be blamed for that which could not be accomplished. The more humane methods of to-day were not in practice anywhere, and were hardly conceived; the people of that time acted up to their ideas of humanity according to their knowledge and possibilities. As well might we say that all the inhumanities of man to man in the past, were inexcusable, as to say that our fathers were blameful for their treatment of David Robinson, and his like. It may be that by the end of another century, when these and other problems of society are being discussed, we shall be held up to the reproving view of the world, as not without our share of blame. Education progresses slowly, but, thank the Lord, it progresses surely.

There is one point in this case of Robinson, however, which is worthy consideration; and the more so, because it is so strongly contrasted with our own conduct too often. When considered dangerous he was restrained; though this is now usually done, yet not unfrequently it is delayed or wholly neglected. How many instances where reason has been lost, will occur to many who read these lines, that a "distracted" person has not been restrained, because not considered "dangerous." Too many violent deaths have happened because supposed reason did not exist to prevent them. And so, from the fear of interfering with personal liberty, we are slow to enforce the law which will give security to person and property; we wait too often until the injury is done before we take those measures which might have prevented it. The liberty of the individual is a sacred liberty, to be carefully watched and guarded, more carefully, perhaps, than the liberty of the many, but the liberty and safety of all are to be considered, especially when the liberty of the individual becomes dangerous to all. *Salus populi suprema lex.* The case of Robinson was doubtless a vexatious one to the authorities, and they knew not which way to turn except to the common jails. These were not strong enough to confine him, and so he escaped, only to excite further alarm and arrest. That time which is said to soften afflictions, sometimes modifies disease, and so enables the sufferer to gradually approach his end, with less pain and mental disturbance than at an earlier period. When the acute stage of cerebral disease has passed, and the violent excitement and delirium no longer exist, then the system, after a long contest, is quieted in a measure, and accommodates itself to the changes in the brain, and the poor patient drags out a vegetative life, for perhaps many years afterwards, in dementia. So it probably was with Robinson; the jails were no longer necessary for his restraint, and the workhouse was sufficient for his protection.

SURGEONS AT CROWN POINT.

Great Britain and France were enjoying one of their hereditary quarrels, and the former was anxious that the colonies should be active participants. The northern frontiers were exposed to incursions from the French and Indians, and our fore-

fathers had but little love for the latter, and not very much for the former. Though the conversion of the Indians had been among the expressed objects of the settlements in New England, yet from drunkenness, and immorality, and idleness, and that constitutionally bad habit which seems to belong to them of absorbing that which is bad and discarding that which is good, the success had been far from encouraging. The sporadic instances of civilization and Christianization made but little show against the deplorable melting away of the aboriginal races. It is a result which has been historically repeated down to our own time, but which might possibly have been changed had all the members of our own race been perfect saints, and had all of our own energies been turned toward the civilization of the Indian. It is not enough to say that here and there the Indian has been taught to believe in God our Father, to shove a jack-plane, or wield a hoe, for, however gratifying these may be, the numbers are constantly diminishing; the ground is constantly being lost; the meeting of two diverging lines in the distance seems not less apparent. It is a wonderful example in history of the non-assimilation of the conquered with the conquerors.

But to the objective point, *Crown Point*.—

In 1755, the General Assembly appointed as Physicians and Surgeons, Dr. Timothy Collins of Litchfield, Dr. Jonathan Marsh of Norwich, Dr. Samuel Ely of Durham, Dr. Leverett Hubbard of New Haven, Dr. Pelatiah Bliss of Suffield. And as Surgeons' Mates, Elisha Lord of Farmington, John Redfield of Durham, Joseph Clark of Wallingford, and Jabez Fitch, Jr., of Canterbury, Timothy Warner, Gideon Wells of Wethersfield.

For the Invasion of Canada.—The following were appointed as Surgeons and Surgeons' Mates:

1758. Drs. Elisha Lord, Canterbury; Gideon Wells, Wethersfield; Daniel Dwight, Somers; Joseph Clark, Milford; Daniel Porter, Jr., Waterbury; William Whiting, Jr., Norwich; John Bartlett, Lebanon; David Adams, Canterbury; Benjamin Pomeroy, Jr., Hebron; Silas Baldwin, Derby; John Ward, Jr., Danbury.

1759. Drs. Elisha Lord of Norwich, Surg. 1st Regt. and Principal Director of Hospital Stores; Daniel Dwight, Enfield;

Daniel Porter, Jr., Waterbury; Samuel How, Ashford; Gideon Wells, Fairfield; Gershom Dorrance, Voluntown; David Adams, Canterbury; Benjamin Pomeroy, Jr., Hebron.

1760. Elisha Lord, Norwich, Director Hosp. Stores and Surgeon; Samuel How, Mansfield,—he died in the service, and was succeeded by John Andrews; Daniel Dwight, Enfield; Benjamin Pomeroy, Jr., Hebron; Gershom Dorrance, Voluntown; David Adams, Canterbury; Phillip Turner, Norwich.

The report of a committee “appointed to receive, examine, and adjust the several accounts for diet, medicines, &c., supplied Robert Cromwell,” mentions the names of Dr. Amos Mead and Dr. Peter Hugford.

1761. For further service twenty-three hundred men were ordered to be raised, and the following were appointed as Surgeons and Surgeons’ Mates: Drs. Gideon Wells, Fairfield, Surgeon, Phillip Turner, Norwich, surgeon’s mate, 1st Regt.; Gershom Dorrance, Voluntown, surgeon, Jonah Todd, New Milford, surgeon’s mate, — Nehemiah Clark served in place of Todd, — 2d Regt. In a new enlistment of “two hundred and twenty-six able bodied men,” Dr. Ebenezer Jessup served as surgeon.

1762. The unfortunate and very fatal expedition to Cuba was undertaken in March of this year. Though Havana was captured, yet the yellow fever was very destructive to our troops. It was a most serious affair for our colony. Two regiments were ordered; Dr. Elisha Lord was surgeon of the 1st Regt., and Eliakim Fish, surgeon’s mate. Dr. Timothy Collins was Surgeon of the 2d Regt.

1764. In March of this year the colony, “in obedience to his Majesty’s commands,” and in order to repel further incursions of the Indians, directed that “two hundred and sixty-five men should be raised with all possible dispatch.” The Assembly appointed “Israel Putnam, Esq., to be Major of the forces; and Dr. Ebenezer Jessup was surgeon of the same.”

For a few years there was peace in Israel; it was but the lull in the storm which indicates a more serious one to follow. The colonists had acquired valuable experience in the wars against the French and Indians, which prepared them, in a degree, for that long contest which resulted in their independence.

The only names of physicians which I find in the Colonial Records down to 1776 are the following:

1770. Dr. Robert Usher of Colchester presented to the Council his "account of sundries expended in doctoring Mechial Ball, a transient person," etc.; also, Dr. Thomas Foot of Waterbury and Dr. Simon Wolcott.

1771. Dr. Dudley Woodbridge of Groton was one of a committee. Dr. Perez Fitch of Stamford, account, etc.; Dr. Ichabod Warner of Bolton, medical services; Dr. Thomas Mosley of East Haddam, member of a committee.

1772. Dr. Johnson is one of a committee. The following had their accounts approved, for medical services: Drs. Lee and Elderkin of Windham, Graham of Woodbury, Carpenter of Voluntown, Catlin of Goshen, Simon Smith of Sharon, and David Rogers. Dr. Elisha Lord died intestate, March 20, 1768. Dr. Benjamin Warner, last will of, etc. Dr. Alexander Wolcott, "for doctoring Billy Squaw, £1. 12*sh.* 8*d.*"

1773. For medical services: Drs. Thomas Coit, Thomas Little, Parker Morse, of Pomfret; — Maken of Hartford. Dr. Zebulon Gillett sued out a mortgage.

1774. For medical services: Drs. Aaron Andrews of Wallingford, Thaddeus Betts of Norwalk, — Lewis of Wallingford, Jared Potter of Branford. Dr. Daniel Hooker of Hartford died. Dr. Thomas Anderson of Lyme died.

BENJAMIN GALE.

Dr. Benjamin Gale was born on Long Island, in 1715. He studied medicine with Jared Eliot, married his daughter Hannah, settled in Killingworth, and died there May 6, 1790. He was a very distinguished physician, a man of considerable learning, an agriculturist, and a politician. For quite a number of years he was one of the Deputies to the General Assembly, and for many years a Justice of the Peace. Thacher says, "he was employed much of the latter part of his life in writing political essays for the newspapers of the time."

But he is mostly distinguished as a practitioner of medicine. He wrote a dissertation on the inoculation of small-pox in America, and advocated the use of mercury as a preparative to that disease. Although this course had been announced previously by some in Europe, it is believed that with Dr. Thomas of Virginia, and Dr. Munson of Long Island, they were mainly instrumental in introducing the practice in the American colo-

nies. The credit is given to the two gentlemen mentioned. In 1745, Dr. Beck says, "according to the statements of Dr. Gale, it appears that the deaths from the natural small-pox before inoculation was introduced into New England, averaged 1 in 7 or 8; when inoculation was introduced, the deaths amounted to 1 in 30. By improvements and proper precautions they were reduced to 1 in 80 or 100; and finally, by preparing the system by the previous use of mercury, the deaths were only 1 in 800 or 1,000." He was also a contributor to the "Cases and Observations," published by the New Haven County Medical Society in 1788. He also dabbled somewhat in theological speculations, and wrote a Dissertation on the Prophecies.

He is mentioned by Rev. Mr. Brooks, in a Bi-Centennial Address at Clinton in 1867, who says, "I refer to him because, in one sense, he stands connected with the history of this Church, and because I desire to call your attention to the fact that even then there were those in this place that were looking for the speedy destruction of the present order of things. He built the stone house which, with some improvements, is now known as the Clinton House. It is said that he had the walls made thick and strong, so that it might stand till he should rise from the dead, so that he could have a home to go to, and one that should look natural. . . . He was buried, at his request, with his feet towards his home, facing the west, so that, as he said, the first thing he should behold on coming forth from the grave, would be his old homestead."

Upon his tombstone is the following inscription:

"In memory of Dr. Benjamin Gale, who, after a life of usefulness in his profession, and a laborious study of the prophecies, fell asleep May the 6th, A.D. 1790, Æ 75, fully expecting to rise again under the Messiah and to reign with Him on Earth. I know that my Redeemer, &c."

I have not been able to discover further concerning him, but he was undoubtedly a "character" of whom we would like to know more. Time and the surroundings brought out the individual peculiarities of men, which are not so common in our day.

HARTFORD COUNTY.

In addition to what has been written about the physicians of *Hartford County*, the following is submitted concerning those in

practice between the period of the war and the organization of our Society: and first of *Hartford*. Dr. *Niel McLean* was a native of Scotland; first settled in Wethersfield, and afterwards removed to Hartford. Dr. Woodward says: "he had always been spoken of as a man of refined education, great dignity and ease of manners, and of uncommon benevolence of heart." He was associated with Dr. Morrison for a while, and was one of the trio with him and Dr. Andrus in the consultation before mentioned. Dr. W. calls him *Laughlin* McLean in the sketch in Williams' Biography, but I think his Christian name was *Niel*, as the following bill will show:

HARTFORD, May 18th, 1766.

"Capt. Samuel Wadsworth Dr. to Niel McLean —

To Sundrie Visits,	1 ,, 6 ,, 0
To Sundrie medicines,	2 ,, 1 ,, 6
	<hr/>
	3 ,, 7 ,, 6
Ditto Credit 9 Gallons of Rume,	1 ,, 16 ,, 0
To your slae to ffarmington,	4 ,, 6
To 31 waight muton,	6 ,, 6
To 60 wt Beff,	12 ,, 6
To 1 Bushel indon Corn,	2 ,, 6
To 17½ wt ^e vell,	3 ,, 7
	<hr/>
	£3 — 5 — 7
August	
1768 To 20½ wait vell,	4 — 3½
	<hr/>
	3 ,, 9 ,, 10½
January 18 th 1770 To 71 wait Beef,	17 — 6
	<hr/>
	£4 — 7 — 4½"

The credit of the "slae" is in the handwriting of Dr. McLean, but Capt. Wadsworth is responsible for those following. He died 1794.

Dr. Thomas Langrell, graduate of Harvard College 1751, entering from Lebanon. As he was crossing Connecticut River, a companion fell from the boat, and the doctor, leaping into the water, was drowned in his efforts to save him, June 15, 1757, aged 29. Above the usual inscription on the tombstone were these lines, inserted in a panel, which is now gone:

"Drowned in the glory of his years,
And left his mate to drown herself in tears."

His wife died 1766.

Dr. Samuel Hooker, died 1761.

Dr. Nathaniel Ledyard, killed in the explosion at the school-house, 1766.

Dr. Thompson is mentioned as a Tory; a child of *Dr. Thompson* was buried 1770; I have no further knowledge of him.

Dr. William Jepson. I copy the full account of him given by Mr. Charles J. Hoadly, in his "Annals of Christ Church Parish," read at the semi-centennial celebration in 1879:

"He was educated in Boston as an apothecary, and instructed in the art or mystery of physic and surgery. He settled in Hartford about 1757, soon after he came out of his apprenticeship. Here, at the sign of the Unicorn and Mortar in Queen street (now Main), in partnership with *Dr. Sylvester Gardner*, who lived in Boston and furnished the capital, he carried on the business of apothecary and grocer—that is, he kept tea, sugar, and spices, as apothecaries then generally did. *Dr. Jepson* was one of the founders of *St. John's* Masonic Lodge in this city in 1762. About 1769, he became embarrassed in business, through his lenity and good nature, as he alleged, and in 1771, petitioned the General Assembly for an act of insolvency, which was granted in October, 1772. He is said to have been a skilful physician. *Thacher's 'Medical Biography'* incidentally notices him as 'a prominent professional character of the last century.'"

The same accomplished writer adds in a note—

"Some other early apothecaries were here: *Thomas Langrell*, born March 6, 1727-8, graduated at Harvard College, 1751, which he entered from Lebanon, Conn. He was drowned in the Connecticut, June 15, 1757, with *William Harpy* of Harvard, Mass. They had gone over the river for rose leaves. His widow, whose maiden name was *Mary Hyde*, of Norwich, died in New Haven, Dec. 16, 1766. *Lothrop & Smith* were druggists and book-sellers in King street (State street) contemporaneous with *Gardner & Jepson*. They dissolved in 1771, and were succeeded by *Smith & Coit*. *Richard Tidmarsh*, physician, surgeon, midwife, and apothecary, succeeded to *Dr. Jepson's* shop in Queen street, August, 1774, but it was occupied by *Thomas Hildrup*, in 1776, as a watchmaker. *Hezekiah Merrill* advertises drugs, etc., at the sign of the Unicorn and Mortar in 1775, and it seems that *George Merrill* had the same sign the next year.

Dr. John Augustus Graham; he made oath, Dec. 31, 1783, to a long account "of medicines, visits and attendance on the Late *John Bigelow* and his family for which he never has recieved payment, or any part thereof." The visits, etc., commenced in 1778, and the account is another illustration of long and much delayed settlements.

Dr. Thomas Hartshorn. A bill rendered to Capt. S. W.:

"To Attendance from 27 May to 18 June 1770. In the Interim were administered a vomit, 4 Large Blisters for Leggs and arms, 8 Nervous Bolus, 4 doses febrifuge Powders, 9 doses febrifuge Bolus, Decoction of the Cortex, Elix Vitrioli, Ingredients for a Quart for Stomachic feb Bitters, 2 Purges. £3, 15, 0."

Dr. Daniel Butler lived on the east side of Main Street, south of the bridge, and was the father of the late John Butler; he was engaged in other business, as is shown by the following:

"The Estate of Mr. Daniel Goodwin Dece^{sd}.

To Daniel Butler Dr.

1788	for Sawing 2 Logs,	. . . . .	£0, 4, 0
Jan'y			
1790	1 Rheam paper,	. . . . .	18, 0
	3 Visits, Emetic &c forth for Mrs. Goodwin's		
	Children,	. . . . .	8, 0
			<hr/>
			£1, 10, 0"

Dr. Eliakim Fish was, I think, a physician of some repute. He came from Norwich. He built a house a short distance south of Christ Church, where the old Melodeon building stands, lived and died there, March 25, 1788. He acknowledges "as Physician for the town of Hartford, the sum of Twelve pounds Lawful money according to contract."

Dr. Joshua Hempsted was represented to me many years since, by an old inhabitant, as "not much of a physician, but set bones." The following bill will show the current charges for surgical services, and like amounts I have found in several old day-books and ledgers of others.

"Capt. Samuel Wadsworth to Joshua Hempsted — Dr.

March 9 th , 1783,	to Reducing Fractured Leg for Negro	
	Child, Dressing & plasters,	. . . . . £0 : 2 : 6
	to three Dressings & plasters,	. . . . . 0 : 3 : 0
May 12 th ,	to Reducing Fractured Ribs for Negro man &	
	Dressing & plasters,	. . . . . 0 : 2 : 6
	to three Dressings & plasters,	. . . . . 0 : 3 : 0
		<hr/>
		£0 : 11 : 0

as this Small acc^t is of Sum years Standing the Ballance will be acceptable to y^r Humble Servant.

"On the 26th of August, 1790, Rec^d the within Sum of Eleven Shillings which [is] in full of all accounts to this Day p^r me Joshua Hempsted."

Dr. John Indicott, my informant said, was here during the

Revolutionary war, and for some time afterwards. In 1782, he renders an account for three visits at 1/6 each; and "To bleeding," 2/.

The two following bills were from apothecaries, and are of value as showing the prices of drugs at the time:

1750.	Cap ^t Sam ^l Wadsworth to Rich ^d Carter, Dr.	£	s	d
Febr ^y 4 th .	To 3 papers of powders for your man (John Lawrence),		4	„ 6
	To a Cord. Julep $\frac{3}{4}$ 6 for D ^o ,		7	„ 6
	To a Sudorif. draught,		2	„ 6
5	To a Purging Infusion,		3	„ 9
	To an Anti-emetic draught,		2	„ 6
6	To a purg ⁿ Infusion repeated,		3	„ 9
	To a Ptysan lb ij,		5	„ 0
	To a Narcotic draught,		2	„ 6
7	To a purging Infusion,		3	„ 9
	To a Ptysan lb ij,		5	„ 0
				<hr/>
				£2 : 0 „ 9

Wonderful to relate, "the full contents of the above Acc^t Rec^d by R. Carter, Feb. 22. 1750." A quick settlement.

Captⁿ Jonathan Wadsworth, Dr.

To To Rich^d Tidmarsh.

1772, Nov. 6 th .	To 4 Balsam restring. Boluses,	£	„ 8 „
	To a Restringent Mixture, lb ss,		„ 6 „
	To 4 Boluses repeated,		„ 8 „
	To the tincture repeated,		„ 6 „
		<hr/>	
Rec ^d March 8 th , 1773.		£1 „ 8 „	

Dr. Lemuel Hopkins was born in Waterbury 1750, studied with Dr. Jared Potter and Dr. Seth Bird, and commenced practice in Litchfield about 1776. He removed to Hartford about 1784, and was one of the famous wits and poets of that city. He was exceedingly distinguished as a physician, and highly regarded as a man. The lengthy sketch of him in Thacher is by Dr. Thomas Miner and Dr. S. B. Woodward. "He was possessed of a great originality of genius, and had a peculiar facility of investigating the causes and seats of obscure diseases. It may with justice be remarked that he retained the highest reputation, both in the theory and practice of medicine, of any physician in his county, or perhaps in the State. The eccentricities of his character were peculiarly striking. . . . In

his person Dr. Hopkins was tall, lean, stooping, his countenance strongly marked, his features large, eyes light, limbs uncommonly long, yet in his youth he was very muscular and strong." Dr. Bronsón says, "he was eccentric in his ways, and uncouth in his appearance." This personal description of him rather disappoints us, who have regarded him as rather small in stature, delicate in appearance, exceedingly well dressed and neat, gentle and graceful in his manners. We formed our opinion of him, I suppose, from the Little Giant living in Massachusetts; the truth sometimes plays sad havoc with our imagination. He lived, I am told, on the west side of Main Street, a little distance south of Christ Church, where he died. Perhaps no one in our profession was more distinguished in literature than Dr. Hopkins.*

The two following letters were received from his grandson, Frederick Sheldon, Esq., of Newport, R. I., who kindly presents them to the Society. They were written by Dr. Daniel Sheldon of Litchfield, the brother-in-law of Dr. Hopkins, and relate to his last days in Hartford. Another letter, in Dr. Hopkins' humorous vein, detailing the circumstances of a case which he saw in consultation in Springfield, and of the Springfield doctor, called Dr. Slop, but true name unknown, is too long for publication. The three autograph letters will be deposited in the archives of the Society, and the donor should receive our thanks for the same.

"HARTFORD, March 24th, 1801.

"DEAR HULDAH

"When I set out for home, I expected to have returned before this, but I found Dr. Hopkins sick, very sick indeed, & he still continues so — his cough, pain in side & breast, attended with fever, had work'd up to that degree while he was on his journey to Waterbury, that he was bled & blister'd before his return. He with difficulty got home, & has been confined to his house ever since. However, this day is so pleasant, that he intends to try to ride a little way on his horse. He wishes me to stay with him until he is better, but I shall endeavor to go home in a few days. I am very busy attending to him, his patients, & my inoculated ones. I have inoculated about 60 — two-thirds of

* "At a meeting of the Hartford County Medical Society, held at Bennett's City Hotel, April 16, 1820,

"Voted, on motion of Dr. Todd, that we show our respect for the memory of Drs. Hopkins, Jepson, Morrison, and Fish, by visiting their graves in the adjoining graveyard.

"Pursuant to this vote the Society formed a procession, and visited the graves of Drs. Hopkins and Fish, but did not find the other named physicians."

which have nearly got through the complaint. I do not consider Dr. Hopkins as being now in very immediate danger; but I fear what may be the consequence of his complaint. I sent my keys by Mr. Wolcott, which I suppose he will deliver you. You may expect me home as soon as I can leave or take Doct^r Hopkins with me to Litchfield. I am dear Huldah yours affectionately

“DAN^L SHELDON.”

“HARTFORD, Tuesday Morning 8 o'clock.
[Postmarked April.]

“DEAR HULDAH.

“The worst which I anticipated when I left home I think will have taken place before you receive this. Though Doct^r Hopkins was from home & with a patient whom he wished to relieve on the evening I arrived in town, yet in the morning he was bro't home & much changed from what he was when I left him — his legs swell'd to his knees with an entirely inelastic feel, great oppression of breathing, prostration of strength, & much altered countenance, & he has from thence gradually continued to decline. He has appeared to be dying since about day. I have contemplated staying until after his interment. Our family circumstances are such that I hardly think you can come to attend his funeral; however you can best judge. Rebecca has not yet returned from New York; they sent for her on Saturday. She probably will not arrive until to-morrow evening, too late to see her father alive, though he has manifested strong desire that she might arrive before his exit. His last conversation has been calm, religious, and like a good mans. — I am dear Huldah yours &c.

“DAN^L SHELDON.

“P. S. Since I wrote the foregoing, he has paid the great debt of nature, never to return.”

He died April 14, 1801.

The sketch of him in Thacher is quite long and appreciative.

“He received the degree of Master of Arts from Yale College in 1784. He was indefatigable in his literary and scientific labors; his knowledge was very extensive, his mind highly cultivated, he was not only thoroughly read in the best writers of his profession, but in those of the arts and sciences, and modern literature generally. His memory was remarkably strong and retentive; he could quote every writer he had read, whether medical or literary, with the same readiness that a learned clergyman quotes his bible. . . . In acute diseases Dr. H.'s practice was efficient and energetic. He used the lancet, and antimony, and calomel and opium with a liberal hand.”

Though it falls after the date prescribed for me, yet it appears proper that mention should be made of a Society which was

formed in Hartford, called the *Hopkins Medical Association*, in honor of our worthy brother. I quote a few sentences from a paper read by Dr. Milo L. North, June, 1838, concerning its origin :

“About the year 1824, Drs. Todd, Tully, Reed, Pierson I think, and probably some others, paid a social visit, with their wives, to Dr. Hyde of Ellington, 15 miles from Hartford, where I was then practicing. To me it was truly delightful, and it appeared to be so to all. The same party, much enlarged, afterwards met at Dr. Pierson’s. From here it went to Dr. Tully’s, in East Hartford, if I recollect right. After this the meetings terminated in the Hopkins Medical Association which was organized June 14, 1826 ”

The Association was not confined wholly to Hartford County in its members; it was “select and elective.”

A large folio contains several of the papers which had been read by the members, and also “A Treatise on Common Cold, or Catarrh, by Dr. Lemuel Hopkins,” together with “A Treatise on Consumption,” by the same author. Both these are “transcribed from manuscripts in possession of M. F. Cogswell, M.D.”

Dr. Mason F. Cogswell was born at Canterbury, September 17, 1761. He graduated at Yale College 1780, studied medicine with his brother, and was in practice with him until 1789, when he removed to Hartford, where he died, December, 1830. He was one of the incorporators of our Society, and was its President for a number of years. To few of our members have been given such encomiums of praise as to Dr. Cogswell. The sketch of him by Dr. Knight in his introductory lecture before the medical class at Yale College, 1838, and the paper by Dr. Sumner on the Physicians of Hartford in 1820, read before the Hartford Medical Society, 1848, are both extensive and faithful in notice of his general character and professional attainments. He was skillful both as a physician and a surgeon, and was for many years the most extensively engaged practitioner in this part of the State. His literary acquirements were of no mean order, and he was a companion of Dr. Hopkins, Judge Trumbull, Rev. Dr. Strong, Richard Alsop, Theodore Dwight, and other kindred spirits. He brought honor to the town and fame to himself by his professional skill and knowledge, and by his successful efforts for the establishment of the Institution for the Deaf and Dumb. So much has been written concerning him that I do not feel it necessary for me to remark further.

Dr. Eli Todd was born in New Haven July 22, 1769. He graduated at Yale College 1787, and immediately commenced the study of medicine with Dr. Ebenezer Beardsley of New Haven. Before he was fully twenty-one years of age he was in the practice of his profession in Farmington, where he remained until 1809, when he removed to Hartford, where he died November 17, 1833. He was one of the original members of this Society, a most learned and faithful physician, beloved by his patients and admired by the public. He early gave his attention to the treatment of the insane, and was chiefly instrumental in securing the establishment of the Retreat for the Insane at Hartford. He was the first Superintendent of that institution, and by his gentle, but able management, did much towards securing that excellent reputation which it justly sustains to this day. I should but recapitulate what has been said of him by his intimate friends and associates, Dr. Woodward and Dr. Sumner, who knew him well, did I add more to this short notice. He was a man of great ability in his profession, of undoubted talents, of unquestioned worth. In any occupation and in any place he would have been regarded as a wonderful genius.

Miss Mary K. Talcott writes: "*Rev. Nathaniel Hooker, of West Hartford, 1758 — 1770. Yale College, 1755, practiced medicine in his parish, and my aunt, Miss Julia Seymour, has told me about the medicine closet, with shelves fitted for bottles and vials, in the sitting-room of the house he occupied, afterwards the residence of Rev. Nathan Perkins, and now the Episcopal rectory.*"

Dr. Elihu Tudor was born in *East Windsor, 1733*; graduated at Yale College 1750, and studied with Dr. Gale of Killingworth. He was surgeon in the expeditions against Canada, and in that of the army which captured Havana. He afterwards went to England, was continued in the army, and enjoyed the benefits of the hospitals there. He was retired from the army, at his own request, about 1767, and returned to East Windsor, where he died in 1826, aged 93 years. His half-pay had been continued to him for so long a time, that it is reported the British government sent a special messenger to inquire if such a person was actually alive. Dr. Woodward says that "he took an active part in the establishment of the Medical Society of

the State, and was always a zealous advocate for the honor and improvement of the profession. He was extensively employed as a physician and surgeon, and was undoubtedly a skillful member of the profession." His name is one of the very few which has lingered in the memories of our older people. During the Revolutionary war, he was under some suspicion of being a tory, but being very quiet and prudent, he suffered no violence. A visit from some warm-hearted patriots, who were proposing a ride upon a rail, came to naught, as they were satisfied with his explanations, or his firmness, as I have heard. Dr. Woodward says that "he was a true friend of his country, while at the same time he was a friend and admirer of the British government," which would lead us to think that the patriots had some reason to be suspicious of him. His character was irreproachable, his manners polished, and his professional skill great.

Stiles, in his "History of Windsor," says, "in his commission as surgeon's mate, in the 43d Regiment of Foot, dated in September, 1763, his name was, by some mistake, written *Edward Tudor*. As he had always disliked his name of Elihu, he afterwards wrote and drew his pension under the name of *Edward*." I have heard it said, that, for the above reasons, he wrote his name usually *E. Tudor*. A bill in my possession, which he rendered against the estate of Major John Bigelow, is written *E. Tudor*. It was only settled eighteen years after 1767.

Stiles mentions other physicians in Windsor, viz.: *Dr. Timothy Mather*, died 1788, aged 34 years. *Dr. Charles Mather*, graduate of Yale College, 1763, lived in East Windsor. *Dr. Christopher Wolcott*, son of Dr. Alexander Wolcott, "intelligent, though somewhat eccentric." Among our most learned physicians was

DR. ALEXANDER WOLCOTT,

Fourth son and fifth child (of fourteen children) of Gov. Roger Wolcott, was born in Windsor, Jan. 7, 1711-12, and died there March 25, 1795. He graduated at Yale College 1731, and married (1st) Lydia, daughter of Jeremiah Atwater of New Haven, probably about 1732, as his first child was born Nov. 14, 1733, and commenced practice in his native town, Stiles says, "about 1740." (2d) March 17, 1739, Mrs. Mary Allyn

of New Haven. (3d) Mary Richards of New London, April 3, 1745. She died Oct. 23, 1817, aged 93 years. In the Wolcott Memorial it is stated that "he removed from New Haven after his last marriage (meaning the third) and settled in Windsor as a practicing physician, and soon distinguished himself in his profession." Stiles does not mention the second marriage at all, but states that he commenced in Windsor "about 1740," so that it is possible he lived in New Haven until after the death of his second wife. Dr. Sumner says that he "became a student of medicine in the office of Dr. Norman Morrison," shortly after his graduation, and "commenced the practice of medicine at Windsor, about 1740." The general impression has been that he only lived and practiced in Windsor; but if New Haven was the possessor of him in his early medical life it only adds another to those learned worthies of that town who have brought honor to our profession.

He was among the most learned physicians of his time, and possessed an extensive library, two hundred volumes of which, by the good offices of Dr. Sumner, are now in the library of Trinity College. He says, "it was large and well selected, and its array of folios, mostly in Latin, would make a student of this day shudder with apprehension. . . . Dr. Wolcott was in the practice of reading these ponderous tomes of Latin and Greek, though one of the sons, to whom they devolved, looked upon them as excellent waste paper, and as such employed them." He was an able and very energetic man, highly regarded as a citizen and a physician, and was engaged in a very extensive practice.

His father, who was in command of the Connecticut forces at the siege of Louisburg, was extremely anxious that his son should accompany him. His old preceptor, Dr. Morrison, was appointed by the General Assembly, February, 1745, as surgeon, with "Mr. Alexander Wolcott to be improved as Physician and Surgeon's Mate in the expedition against Cape Breton." It was at an interesting period of his life, for, having been twice bereaved, he had formed a tender affection for a young lady of New London, Miss Mary Richards, and very naturally had a reluctance at leaving her, when both were looking forward to a happy union. Under the circumstances it was excusable for him to be somewhat of a "laggard in war," but the subjoined letter will show

that he was not a "laggard in love." I know that every woman in the family of every physician of the State will pardon me for inserting it in this paper, and that they will thank me for the hours I have spent in endeavoring to establish that he married his "dear Molly" before the expedition sailed, as truly he ought to have done, and did not wait until after its return, as truly he ought not to have done.

The letter was furnished to the *Savannah News* by Mrs. W. W. Gordon of Georgia, about two years since, a great-great-grand-daughter of Dr. Wolcott, who, in addition to the "highly prized letter, has the engagement ring which Dr. Wolcott gave his betrothed, and also a piece of the wedding gown."

The statement is made "that Dr. Wolcott returned to Connecticut unscarred, and in a few weeks married Miss Richards, who made her 'faithful lover' a most devoted and exemplary wife."

Now I beg that no woman will read the letter until she has read this brief relation and argument, the intent of which is to show that the old proverb about dangerous delays has no applicability to this case, because there was no delay, as the figures will make clear.

War having been declared between France and Great Britain, and the colonists being desirous to show their zeal and loyalty, the project of seizing the strong fortress of Louisburg, garrisoned by the French, was proposed by an enterprising and energetic gentleman of New Hampshire, to the respective colonies. So bold and apparently hopeless was the proposition that Massachusetts would not entertain it at first, and New York and Pennsylvania held back, though the latter afterwards advanced £4,000 towards the expenses of the expedition. Connecticut strongly favored the attempt, and the Governor called a special meeting of the Assembly, which was held at Hartford in February, and again "on Thursday, the 14th day of March, (and continued by several adjournments until the 19th day of the same month) annoque Domini 1744-5." The excitement in the colony was very great; the war fever was at the highest point; war, resistless in its claims, had no regard for the projects or comfort of our hero. He came to Hartford the day before the adjournment of the Assembly, possibly to effect a recall of his appointment as surgeon's mate. It was a novelty,

doubtless, then as now, when one is found who desires to refuse an office, rather than make an effort to secure it.

His father, however, who was commander of the forces of Connecticut and Rhode Island, was extremely desirous that he should accept it, for he himself had come to be sixty-seven years of age, and was troubled with infirmities, of which he makes subsequent complaint in his Journal. If he wished his son to share with him in military glory, he also very naturally wished him to be near, as a kind support and protector in case of serious sickness or injury. All his pleas and remonstrances were in vain, and he felt bound to accept of the appointment, though his "inclination was not to go," doubtless in consideration of his feelings to his sweetheart; but then, "my aged father, to whom I owe my utmost service, is going, and insists upon my accompanying him." The unselfishness of the man, his anxiety to do his duty, and his tender pleadings, commend him to us most favorably. Among such conflicting emotions, and the hot turmoil of popular and legislative excitement, finding that no release for him was possible, the day before the adjournment of the Assembly he writes this loving epistle, which is not often excelled for its tenderness of feeling, and beauty of expression. He stands out boldly as the true man he was, and justifies all the encomiums he has received as being learned, honorable, and just.

Of the response from New London we know nothing, but may well suppose that the tidings were "not very agreeable." It is possible that the happy perception of woman, which will so often be the conqueror against the stern reason of man, found and intimated a way by which some of the difficulties might be overcome; the very sharpness of danger sometimes gives us a wonderful intuition which enables us to escape it.

Let us consider the figures.

Miss Caulkins, in her History of New London, says, "the troops began to gather in New London the last week in March. They embarked Saturday, April 13th, and the next day, at 1 o'clock P. M., the fleet sailed." There was time for the transaction of considerable business between the date of the letter, March 18th, and the sailing of the fleet, and the business was transacted in a very natural and proper way, as my female friends expected, before the following statement was made, which is taken from Stiles' History of Ancient Windsor:

"Dr. Alexander Wolcott married Mary Richards of New London, April 3, 1745."

The doctor went to the wars, again a married man ; he found, or somebody found, an easy and agreeable way of satisfying all parties. The siege, which was successful, was not a prolonged one, and, covered with glory, the greater part of the expedition soon returned. Dr. Wolcott was not among the garrison, which remained until the next year.

The Governor, on his return, landed at New London on the 18th of July ; he had suffered much from sickness, and being, as he says, "very weak, and out of health," tarried there until the 22d. "By easy journeys, and 'with my son, Erastus,' he arrived at Middletown on the 27th, 'very weak.'" On the 29th he was at Wethersfield. "*Tuesday*, 30th, Col. Whiting with his troop and sundry gentlemen from Hartford and Wethersfield, came to me at my lodgings, from whence they attended me to my own house at Windsor, where we arrived about two, afternoon. Here we had a good dinner, drank some bowls of punch &c. and after the discharge of the great artillery, and small arms, gave three huzzas and parted good friends."

Whether the "colic," and the "nephritic pain," of which the Governor made much complaint, when at Cape Breton, was increased by the good dinner, and the bowls of punch, has not become a matter of record. If it were, it is not to be supposed that Dr. Wolcott was there to relieve him.

There is no reason why a small portion of this paper should not be given to the gratification of some of the female members of a physician's family. They are most faithful assistants of the doctor, particularly of a country doctor, and in his absence are expected to receive messages, deliver medicines, and not unfrequently are called upon to give advice. I have known even a servant who was requested to prescribe ; "you live with the doctor, and must know what ought to be done." The wife of good deacon and doctor Fuller, of Plymouth, became, after his decease, quite famous as a midwife. The wife of Dr. Ezekiel Porter of Wethersfield was a noted bonesetter, and even during the lifetime of her husband attended to this specialty in his absence. I have known some very estimable and enterprising women, who entered with spirit into the business of their husbands, and were very helpmeets to them. I

remember, when a boy, that the wife of good Dr. Sumner entertained me in conversation while I was waiting to deliver a special message for him. It is for these kind souls, and others like them, not a few of whom I have become acquainted with in the course of my life, and to whose good sense and worthiness I wish to bear emphatic testimony, that these pages about an incident in the life of Dr. Alexander Wolcott have been written.

The editor of the Wolcott Memorial, the Rev. Samuel Wolcott, says, "the writer's father once told him that Dr. Alexander Wolcott, whom he saw when a child, far advanced in years, was very tall, and erect as a palm tree, with hair hanging down his shoulders of silvery whiteness, and with an eye and eyebrow, and complexion, of a dark hue; his appearance was exceedingly noble."

Permission is now given for the reading of the letter :

HARTFORD, March 18, 1745.

Dear Molly — This Brings tidings which I suppose, if you have that Regard for me which you pretend, will not be very agreeable — that I am going to Cape Breton. Tis not my Inclination to go, but my aged father, to whom I owe my utmost service, is Going, and Insists upon my accompanying him. Tis Impossible for me to Express the uneasiness I have on your account. I find I Love you with a Love almost as strong as Death, for the Publick Calls of my Country, the Voice of Nature, and the Commands of a Father can scarcely Persuade me to Consent to Leave you, and even tho I do consent with my Lips, yet my unconsenting Heart Dwells with you. My Soul hovers over you as Loath to Quit its Hold or part with the Dearest Object of all its hopes and wishes. . . . I Confess there is Something Bewitching in that thing call'd Honour.

But what is war or Glory, what to me,
Or Why Reflects my mind on Aught but thee
Can thy Dear Image from my Soul Depart
Long as the Vital Spirits move my heart — —

If in the Melancholy Shade below
The flames of Friends and Lovers Cease to Glow
Yet mine Shall Sacred Last. Mine undecayed
Burn on thro' Death and animate my Shade.

But why should I pretend to Describe a passion too big for words? If you have felt what the word Love imports and the Dear Disquietude, the Kind tormenting uneasiness, the Care, the fears, and anxiety which a Breast filled with that Tender passion suffers You may guess the present state of my mind and what my Soul suffers for you. I trust our Cause is just and that we have indeed a call from God, and

if we go forth in His name and trusting in His power I hope He will Give us Success, if not, His holy will be Done. . . . What Designs God may have in thus Hedging in our way and Checking our prospects of Happiness I know not, nor what farther Tryalls we are either of us farther to meet with, but 'tis worthy of our Observation that I should happen to be called away just at the Time we had appointed for our Marriage . . . but 'tis the Lord. Let him do what seemeth him Good, and Let neither of us murmur at his Dispen-sations, this Disappointment may turn out finally to both our advantage. . . . My Dear my verry Soul Yearns for you and forms a Thousand Wishes and prayers for your Temporal and everlasting wel-fare, for whether I Live or Die I wish you best Good. . . . I hope as our Rendezvous is to be at New London to see You in a Short Time. I heartily thank you for your Goodness to me in times past, which I hope God will give me opportunity to Requite, if not may the Good God himself Requite sevenfold into your own Bosom all your Kindness and Labor of Love. May he have you continually in his keeping and Crown all your future Days with honor and happiness. May he confirm his Covenant with your Soul and finally admit you to the complete Enjoyment of himself in Glory.

So wishes and So Prays your Sincere Friend and Faithful Lover,
till Death. ALEX. WOLCOTT.

As a good illustration of the length of time before accounts were settled, I submit the following:

1766.	Capt. Samuel Wadsworth to Dr. Alex ^r Wolcott, Dr.	
May 31.	To Calling sundry times advice for his son, . . .	£ 6 , 0
June 10.	To do,	10 , 0
11.	To visit per your Order,	4 , 0
	To Foot's Oynt. 3ij 1/6, to do 6 ^m Liniment Ar.	
	3iss Box 1/3,	2 , 9
1769.		
June 28.	To visit Consultation,	6 , 0
July 2.	To visit 6/, 3 ^d to d ^o 6/, July 1 st to d ^o , . . .	18 , 0
July 4.	To visit,	6 , 0
Windsor, Dec ^r 7 th , 1781.		£2 , 12 , 9

On the back of this bill is endorsed:

Hartford, Dec^r 12th. 1781. Received in behalf of my Father, Alex^r Wolcott, the Contents of the within Acc^o— which is in full of all Demands. Christ^r Wolcott.

The doctors gave long credits in those days.

Dr. Hezekiah Chaffee and his son were also among the physi-cians of Windsor.

East Windsor was originally a part of Windsor, and its inhab-

itants were attended by the physicians of the old town. An examination of the "Windsor Farmes," by John A. Stoughton, has furnished several items of professional interest. Rev. Timothy Edwards, the minister of the East Parish, the father of Rev. Jonathan Edwards, was most minute in his diary and accounts, as these following extracts will show: "Nov. 10, 1729, Allexander Wollcott came to me to be Instructed in y^e Tongues, viz.: to be further instructed for y^e revival of his learning." This was the future Dr. Alexander Wolcott, of whom mention has been made.

Rev. T. E. credits Deacon Skinner, Aug. 25, 1725: "By drawing a tooth for my daughter Esther, 1 sh. Sept. 19, by drawing a tooth, 1 sh. 1726, March 6, by drawing a tooth for Lucy, 1 sh. 1727, June 14, by drawing a tooth for Lucy, 1 sh." The deacon was a useful man in the town. "1729, Dec. 16, I pd to Doctor Bull of Hartford, in Bills, £000, 12 sh., 03 d." This must have been before the practice of free attendance upon the clergy and their families. "Dec. 16, 1729, I pd., viz., I sent by Son & desired him to pay to Docter Pynchon of Springfield, 10 sh., 6 d., on my acctt., whc. is all I owe him, as I have it from him in a note under his hand, £000, 10 sh., 06 d." "July 21, 1730, I pd Doct. [Timothy] Mather a 40 shilling Bill at his own house." At the settlement of the doctor's estate "he pays Nathan, his son, Dec. 9, 1746, £01 11 sh., 00 d." "July 25, 1733, I pd a 20 sh. Bill to Doct. Poyson (alias Poison)."* "March 29, 1734, I cleared my acctt. at Mr. Ruskins in Hartford, with Doct. Poison, for whc. I have his receipt." "June 29, 1734, I pd Doct. Mather 40 sh. in two 20 sh. Bills, at my house in ye south chamber, Doct. Pynchon being there with him."

* Wait Winthrop, writing to Fitz John Winthrop from Boston, July 1, 1706, says, "The French minister here, brought two Frenchmen, brothers, whose names are Poyson; one or both are doctors, are going to live at Wethersfield, and desire to be recommended to you." Judge Adams tells me that James Poyson was a physician in Wethersfield, and that Benjamin Adams brought a suit against him in 1710, for the pay for seventy bushels of onions, and gained his case. It should not be concealed that he was suspected of "uttering false bills in the county of Hartford," and was found guilty of the same, September, 1724, and was sentenced "to stand an hour and a half in the pillory, and to have the lower part of his right ear cut off, and to endure six months' imprisonment, and pay the costs of his prosecution." I know not if the sentence was carried out, but his name appears — James Poisson — in the record several times afterwards, and I suspect he was a bad fish. It is supposed that he removed to Hartford, and this is confirmed by the item of Rev. Mr. Edwards in 1734. It is not likely that either town will quarrel about securing the honor of his residence.

Isaac Loomis appears to have been as useful a man as Deacon Skinner, for he is credited "July 11, 1729, By bleeding my Negro twice, 1 sh., he casting in ye Rest, £00 01 sh., 00 d."

One of Mr. Edwards's parishioners had the following bill: "June 4, 1709, Dettor to Doctor Gersham Bucklee of Glassonbury for sperrits of hartshorn, and a doble portion of phissick and two papers of powders for my son Joseph in money £00 16 sh., 00 d." Counsel was called, "June 8, Dettor to Docktor Thomas Hooker of Hartford for visiting my son Joseph as money £00 03 sh., 00 d." This is the spelling of the "parish-ioner," not of Mr. Edwards or of the doctors.

In the account book of Samuel Rockwell, he gives credit to James Enos, a mechanic, "Jan. 4, 1695, by puling a tooth for my wife £00 01 sh., 00. By puling another tooth 00 02 00." These lay assistants in the profession, and others, like the bone-setters and midwives, may have somewhat narrowed the income of the doctors, but probably it was not a much regretted curtailment.

Dr. Mathew Rockwell of East Windsor, graduate of Yale College, 1728, practiced in Wapping, a parish of that town, according to Stiles.

Rev. Dr. Chapin mentions several physicians who have lived in Glastonbury. *Dr. Asaph Coleman* was a surgeon in the Revolutionary war, and long a practitioner in the town; died 1820, aged 73. *Dr. Elizur Hale* graduated at Yale College, 1742; "he died May 27th, 1790, in the sixty-sixth year of his age, having been in practice forty-four years." *Dr. Isaac Mosley*, graduate of Yale College 1762, "commenced practice in Glastonbury, but being in sympathy with the British cause in the Revolution, he removed to England, where he spent the remainder of his days." He also speaks of *Dr. Thomas Mosley* and *Dr. Joseph Tryon*. Dr. T. was a landholder in 1694.

Among the physicians of East Hartford, was *Dr. Timothy Hall*. I remember him as he was seen many years ago, riding about the country in his "sulky," busy as a young man, attending to his patients. Riding with my preceptor, Dr. Brigham, on a visit to a patient on the east side of the river, we met him returning from his tour of duty. Time troubled him but little, and he was disposed to talk, chiefly about professional matters, making inquiries about disease, new remedies, and the like, and

did not fail to relate his experience. The "experience" of the old medical man, given with an air of authority, is a final answer to all insinuations or objections.

"Did Marcus say 'twas fact? then fact it is,
No proof so valid as a word of his."

As we passed on Dr. B. remarked "that man has a great thirst for knowledge." It is a creditable "thirst" for any man who has come to be nearly eighty years of age, when the remembrance of the past is usually greater than the desire of the present. He was much esteemed in his town as a safe and prudent practitioner. He left a son, Dr. Eli Hall, who was much like his father in his amiable character and gentle manners. Dr. R. W. Griswold writes me this concerning Dr. Timothy: "He studied medicine with Dr. Flint of Shrewsbury, Massachusetts; about 1782, he located in the southwest, or Hockanum district, of East Hartford, and continued in practice there till his death, August 6, 1844. His name is in the list of members of the Connecticut Medical Society in 1793, of which he was treasurer from 1808 to 1812, and vice-president in 1813 and 1814. He was long a justice of the peace, and was forward in all matters of education. That he possessed good abilities is evidenced by the long and able paper on Petechial or Spotted Fever, published in 1810."

The same attentive correspondent has given me the following particulars concerning *Dr. George Griswold*: "He studied medicine with Dr. Abernethy of Litchfield County about 1784, and located in the eastern part of East Hartford, now Manchester, and pursued his professional labors there till his death, Sept. 8, 1821. His name is in the list of the original members of the Society in 1793. He was at several times a Fellow, and was one of the committee to examine candidates for a license to practice. He was highly esteemed as a citizen and a magistrate, and in 1800 was a member of the General Assembly. His professional cotemporaries in East Hartford at the time of the formation of the State Society were *Drs. Samuel Flagg*, sen. and jun., *Dr. Timothy Hall*, and *Dr. John Skinner*. Two of his grandsons have been members of the medical profession, viz.: *Dr. C. E. Hammond* of Portland, and *Dr. R. W. Griswold* of Rocky Hill; also four great-grandsons, *Dr. R. M. Griswold* of

Portland, Dr. E. W. Griswold of East Hartford, Dr. J. E. Griswold of Glastonbury, and Dr. Geo. H. Hammond of Portland."

Dr. Aaron Horsford. "I cannot learn that Stepney parish (now Rocky Hill) had a resident physician until 1774, although there were from eight hundred to nine hundred people in the 'lower community' of Wethersfield previous to that date. The inhabitants went to the mother village for a doctor. Dr. Aaron Horsford of Marlborough located in the third parish of Wethersfield at the date mentioned, and practiced there till his death, April 7, 1804, in the fifty-seventh year of his age. Beside his professional pursuits he was considerably engaged in commercial ventures, in company with the junior Capt. Oliver Goodrich. He seems to have had quite a reputation for success in the treatment of colic. A grand-daughter kept the formula of his favorite physic pills, and made and sold them seventy-five years after his death. Dr. Horsford studied medicine with Dr. Hull of Meriden, and married his daughter. The church record says that he died of 'suffusion of the lungs,' probably a pneumonia." — R. W. G.

Among some old papers I found a bill of Dr. Horsford, of which the following is a copy :

"Samuel Wadsworth of Hartford

	To Aaron Horsford	Dr
Febr'y 21, 1778.	To Collick Physick 3 Doses, . . .	£0, 3, 9
	To Stomatic Powder 6 Doses a Visit and Travil,	0, 8, 0
March 27,	To Hysterick Collick Physick 12 Doses To Calling in,	0, 9, 0
Sept ^m 16, 1778.	To Collick Physic 4 Doses To 2 ani- dines and Calling,	0, 8, 0
25,	To Hysterick Collick Physick 20 Doses and Calling in,	0, 16, 0
	the a Bove is old way of Charge, . . .	£2, 4, 9"

The bill is receipted March 17, 1781.

A relative has told me of a Dr. Horsford of Rocky Hill, whose advice my grandfather was accustomed to seek for the "colic." This designation was comprehensive in its nature, and probably included all pains and irritations in the abdominal region. From Gershom Bulkeley to Dr. Horsford, and afterwards to Dr. Hull, there were various nostrums for the cure of

colic. It was as definite in its term as that of "rheumatism" some years later, and of "neuralgia," which has not yet been quite supplanted, though "malaria" has become a name to designate the cause of many diseases, the use of which is very comforting to the patient and convenient to the doctor.

Dr. Joseph Higgins was a member of the Society and a resident of Rocky Hill. He died 1797, and Dr. Griswold thinks he must have practiced there for ten or twelve years.

Dr. Ezekiel Porter was a physician in Wethersfield, but I have been unable to learn much about him. He died, I think, before the war of the Revolution. Mrs. Mary Porter, his wife and widow, had quite a reputation as a bone-setter, and the usual wonderful stories of these possessors of a natural talent are told about her. Below is one of her bills for services. The "prisoner of war" is supposed to have been one of Burgoyne's army, who broke his leg and was placed under the care of Mrs. Porter. For the copy of this account I am indebted to Miss Ruth T. Sperry. It is taken from Conn. State Archives, Rev. War, Vol. XXXII, p. 382.

The United States,

to Mary Porter Dr.

1777	Dec ^r	21	To travel and setting a broken leg of George Forsyth a Brittish prisoner of war,	£0 — 5 — 6
			To 4 Visits dressings and means @ 2/6 for Do,	10 — 0
		28 th	To 3 Visits dressings and means @ 2/6 for Do,	7 — 6
		31	To 3 Visits dressings and means @ 2/6 for do,	7 — 6
1778	Jan ^y	3 ^d	To 3 Visits dressings and means for do,	6 — 0
		10	To 4 ditto do do for do,	7 — 0
		15	To 2 ditto do do for do,	5 — 0
		19	To 2 ditto do do for do,	5
			To 1 phial camphorated spirits for do,	4
		30	To 1 Visit dressing and means for do,	2
	Feb ^y	2 ^d	To 1 ditto do do for do,	2
		5	To 1 dressing at my shop for do, .	1 — 6
	March	5	To 1 do and Means for do,	1 — 6
				£3 — 4 — 6

Wethersfield Decemb^r 31st 1785 Personally appeard, Mr^s Mary Porter and made Solemn Oath that the Articles in the above Acc^t are justly and truly charg'd said Acct. being Reduced to lawful Silver money.

Coram SAM^l W^m WILLIAMS Just: pec^o.

She presented to the General Assembly a bill for the treatment of another British prisoner, by the name of McLean, who was also unfortunate with his legs.

"Mrs. Mary Porter of Wethersfield Testifys and says in the' month of Dec^r 1776 she sent a Prentice Doc. George Alcott to Middletown to a British Prisoner who had broke his thigh, at the request of Col. Mathew Talcott of s^d Middletown, Upon which he made several visits for which she has never recieved any pay and as my books are from home I cannot ascertain the exact sum, but I think it differs not much from four pounds, Lawful money.

Wethersfield, Sept^r 16th, 1784.

MARY PORTER.

Sworn to before me

SOLOMON WELLES, *Juste peace.*

Mathew Talcott says, "about the last of November 1776 there was one Maclane a British prisoner going out of his way one Evening and fell down a precepis of rocks and broke his thigh, upon which I sent to Mrs. Porter at Wethersfield and she sent Mr. Alcott a professed bonesetter who came and did for him as much as came to about four pounds."

Ezekiel Williams testifies that there was "a British prisoner by the name of McLean who by a fall from a Milldam had his bones broken and was otherwise wounded in such manner that in a few weeks he died."

She was ordered to be paid.

Since the above was written, I have been furnished by Dr. A. S. Warner of Wethersfield with the following inscription upon the gravestone of Dr. Porter, in the yard near the meeting-house:

"IN MEMORY

of Doct. Ezekiel Porter

A very Eminent and Celebrated Surgeon

A Sincere Lover of Mankind

A Warm and Steady Friend of the Civil
and Religious Liberties of his Country

An upright and Charitable MAN and
an Exemplary Christian

Who departed this Life
greatly lamented

By all who knew him

Octo^r 3^d 1775 in the

Sixty ninth Year of his age.

Mrs. Mary Porter Relict of
Doct^r Ezekiel Porter
who died Nov^r 17th 1790,
aged 89."

There is also to be found in this graveyard a stone with this inscription :

"Here lies Interred y^e Body of *Dr. Jonathan Marsh* Late of Norwich who died in this Place June y^e 3^d 1766 in y^e 47th Year of his Age who had with Great Dexterity Success & Extent of Practice Served above 20 Years as Surgeon &c a very useful Man in Life his Death much & universally lamented."

It is thought that *Dr. Nicholas Ayrault*, a Huguenot, was in practice here, and also *Dr. Thomas Perrin*, about the time of the French wars.

Another physician of *Wethersfield*, was *Dr. Josiah Hart* of Kensington, born 1742; graduated at Yale College 1762; studied medicine with *Dr. Jared Potter*, and was a surgeon in the army of the Revolution. He "was below the medium size, but well formed, with a mild, pleasant, and intelligent countenance." He removed to Ohio about the end of the century, and died there 1812.

Dr. Josiah Belden was born in *Wethersfield*, March 29, 1768, graduated at Yale College 1787, and practiced in his native town until his death, June 6, 1818, of spotted fever. I have heard old people there speak of him in very flattering terms.

Granby.—" *Dr. Nathan Joseph Jewett*, was born September 10, 1710; died February 10, 1761. He was educated mostly in *Lyme*, closing with one year in the office of his uncle, *Dr. Gibbons Jewett*; he was in practice about fifteen years in *Lyme*, and nearly sixteen years in *Granby*. *Dr. Joseph Jewett*, oldest son of *Dr. Nathan Joseph Jewett*, was born December 13, 1732; died August 27, 1776. He practiced about twenty-six years in *Granby*, before he went as surgeon into the Revolutionary army. *Dr. Joseph Jewett*, son of *Dr. Joseph*, was born June 7, 1763; died December 6, 1812. He was educated at Harvard College, and practiced in *Granby* several years. Another member of this family, *Dr. Joseph F. Jewett*, born August 22, 1788; died January 5, 1860, and was the fourth *Dr. Jewett* in regular succession, who practiced in *Granby*." This information comes from *Dr. G. W. Sanford* of *Tariffville*.

Dr. Jonathan Bird of *Simsbury* was born 1743; married 1777; died 1786. He was a prominent mason. Another old and prominent physician of this town was *Dr. John Bestor*.

In 1738, *Dr. Samuel Barber* removed from *Simsbury* to *Canton*, and was among the early settlers there. "He had fourteen children, eleven sons and three daughters, all of whom lived to adult years. He died 1797."—*Phelps's Simsbury*, p. 137.

Suffield. — *Dr. J. K. Mason* has sent the following names of some of the old physicians: "*Dr. John Drew* is found on our records as having died here in 1735. *Dr. Nathaniel Austin* practiced here from 1736 to 1749. He was a lineal descendant of *Anthony Austin*, our first schoolmaster. *Dr. Martin Ashley*. *Dr. David Wilcox*, after a long practice, died here in 1787. *Dr. Apollus King* seems to have been his successor, occupying his house, and dying here in 1810, at the age of 43 years. *Dr. Amos Granger* died here in 1811, aged 63 years. *Dr. Howard Alden* and *Dr. Oliver Pease* were co-laborers here for fifty years or more, and died, the former in 1841, aged 84, and the latter in 1843, aged 84. They must have begun practice prior to 1792, and both are well remembered. *Dr. Pease* was quite a noted man, having been judge of probate and town clerk for many years."

In the "Notes" to the Historical Discourse of *Rev. Dr. Noah Porter*, *Dr. Asahel Thompson* of *Farmington* says: "of the earliest physicians little is known except their names, and the fact that they enjoyed the confidence and respect of their fellow citizens. They were *Drs. Hart, Judd, Porter, Stanley, Thompson, and Wadsworth*. Later we hear of a *Lewis, Lee, and Richards*; still later, to about 1790, of *Mather, Johnson, Hosmer, and John Hart*." *Dr. John Hart*, born *Kensington*, 1753; graduated at *Yale College* 1776; entered the army, and at the close of the war settled in *Farmington*; afterwards entered the U. S. Naval service, and died 1798. *Dr. Benjamin Judd*, born August 28, 1810; lived in *Waterbury*, and afterwards in *Harwinton*, where he died. *Dr. Thomas Thompson*, the man of many certificates, born June 30, 1674; died July 17, 1741. *Dr. Adna Stanley* lived in that part of *Farmington* now called *New Britain*; born January 28, 1763; graduated at *Yale College*, 1787, and, says *Andrews*, "was a successful physician, a man of few words, dignified appearance and manners, of correct

habits, sound and vigorous mind; died 1825." Of *Dr. Timothy Hosmer*, *Dr. Thompson* says, "he served for some time in the army during the war of the Revolution. On quitting the army he returned to this town, and resided here till about 1790, when he removed to the State of New York. His practice in this region was extensive." *Dr. James Percival* resided in Kensington parish, and was the father of *Dr. Percival*, the poet. *Dr. Lewis* resided in Farmington "about 1730-1740. *Dr. Ebenezer Lee* lived here several years later, about 1760-1770, and was in all respects a worthy, successful, and acceptable physician." *Dr. Isaac Andrews*, born 1757, and *Dr. John Andrews*, his brother, were both physicians in New Britain.

Southington. — This account is mostly gleaned from *Timlow's History*. In the earliest years of the settlement of the town, the medical attendance came from Farmington and Wallingford. *Dr. Samuel Richards* was the first resident physician. He was born October 22, 1726, and shortly after his parents removed from Hartford to Southington, where he remained until 1750. He was assistant surgeon in the French war, and was also at Cape Breton. He removed to Newington in 1750, and to Canaan in 1755, and back to Newington again in 1758. He afterwards removed to New Hartford, and died at Plainville, November 10, 1793. *Dr. Henry Skilton* was a man of more than common ability. Not only did he successfully practice his profession, but conducted various business enterprises. He was born in Coventry, England, November 19, 1718, and went to Southington in 1748, where he practiced medicine, and afterwards in Woodbury, where he became a large landholder. He took the place of his son who had been drafted into the Continental army, and died at Watertown 1802, aged 84 years. *Dr. Joshua Porter* was the third resident physician; he was a large landowner, and the largest slaveowner in the town. He died 1803, aged 85 years. *Dr. Robert Kinkaid* was born 1735, and died 1783. *Dr. Jesse Cole* was born in Kensington, 1739; he located in Durham, where he practiced until 1793, when he removed to Southington, and in 1803 to Wolcott, when he died 1811. *Dr. Hezekiah Beardsley* died 1790 at the age of 42.* *Dr. Theodore Wadsworth* was born in Farmington, Octo-

* It is said that he received the honorary degree of M.D. from Yale College in 1784, but his name is not found in the Catalogue of 1792. The only names mentioned as having received this degree are: 1722, Daniel Turner; 1779, John Bartlett; 1785, George Mill; 1787, Lewis Dunham; 1789, Charles Kilby.

ber 5, 1752, studied with Dr. Eli Todd, and was in the Revolutionary army for about two years, when he resigned, and located in Southington, where he died 1808.

NEW HAVEN COUNTY.

There were several very distinguished physicians engaged in establishing our Society whose lives would warrant extensive sketches had this not already been done by several biographers. But I ought not to pass them by without some mention, for truly they deserve a kindly remembrance by us, as learned and honorable men of our profession. Among them, and perhaps first of all, was *Dr. Jared Potter* of Wallingford. "He was an uncommonly diligent and industrious student, not merely while acquiring the rudiments of his profession, but to the end of his life." His reading was very extensive, and he was accustomed to purchase most of the new and valuable medical works as they appeared. He was a superior judge of symptoms, and was an energetic and successful practitioner; he was superior in the treatment of acute diseases; was rather skeptical of the power of medicines in chronic complaints. He was born in East Haven 1742; graduated Yale College 1760; studied with Jared Eliot of Killingworth, and practiced in his native town eight or nine years. In 1772 he removed to Wallingford, where he died 1810. Without doubt he was among the most distinguished medical men of our State.

Dr. Leverett Hubbard of New Haven was another noted physician, so active and patriotic that the peaceful laurels to be won in a daily routine of calomel, ipecac, and bark were not sufficient for his ardent temperament. In 1773 he was appointed colonel of the second regiment of the militia, which he held until 1775.

Another to be remembered physician of New Haven was *Dr. Ebenezer Beardsley*, who died 1791, who is thought by Dr. Bronson to have stood at the head of the profession there "in natural and valuable gifts, and perhaps in the knowledge which comes from observation and study."

Dr. Eneas Munson was born in New Haven 1734, graduated at Yale College 1753, studied divinity and preached for a while, but his health failing, prepared himself for the practice of medi-

cine, and after a few years spent at Bedford, N. Y., removed to his native town, where for a long term of years, until infirmities came upon him, he was an active and prudent physician, until he died, 1826. Few men of our profession in Connecticut have been more distinguished or more honored. His powers of observation and discrimination were only equaled by his general love of knowledge, and by his investigations in various branches of science. He was quite familiar with our indigenous *materia medica*, and was instrumental in bringing to notice some valuable remedies. His knowledge of books and his acquaintance with men was extensive, so that, with a temper which was gentle and a mind wisely balanced, he was always pleasant as a companion and interesting as an instructor. To no one are we more indebted for the founding of our Society than to Dr. Munson, and for the wise government of it during the seven years of his presidency. "In those days the Society had not learned from politicians the two mischievous notions of periodical rotation in office and 'geographical claims' of candidates. The clamor for what was due to this county or to that, came in some years later, and it seemed to be forgotten that our best and most worthy men ought to be selected as our officers. If personal worth and professional merit had only been regarded, more than half a century would not have passed before another President would have been furnished by New Haven County. The influence of such men as Dr. Munson lives after them, though it does not always secure men who are like him.

It ought not to be forgotten, also, that there lived in this ancient town another worthy brother, *Dr. Levi Ives*, who entered upon his practice there in 1773, who was efficient as a surgeon, and active as a soldier when the British made a landing in this neighborhood. He was the worthy progenitor of a family distinguished in the profession through a number of generations, which has already been noted by several writers. As they entered upon practice subsequent to 1792, it is beyond my province to mention them further. It is given to but few families to maintain such a succession of worthy and honored representatives.

Guilford.—*Dr. Thomas Ruggles Pynchon* was born in 1760. Upon the breaking out of the Revolutionary war, his father removed to New York, where he remained until 1782, when he

removed, with other loyalists, to Nova Scotia. His son pursued his medical and surgical studies in New York, and enjoyed the advantages of the British army hospitals. Instead of accompanying his father to Nova Scotia he returned to Guilford, and entered upon the practice of his profession. He soon acquired extensive local celebrity, both as a physician and surgeon. He is said to have been very ingenious in the making of surgical instruments, and was also skilled in music and painting. He never recovered from an accident as he was visiting a patient at night, and he died in the following September, 1796, aged 36 years. Rev. Dr. Pynchon says "that many interesting anecdotes concerning him and his family are still in circulation (after the lapse of one hundred years) in Guilford, and its vicinity." In the second volume of the New Haven Historical Society's papers, Dr. Henry Bronson remarks, "he was a distinguished physician and surgeon, who settled in Guilford, according to my information, in 1784. He was educated in New York and Philadelphia, joined the county Society, probably, and the Connecticut Medical Society soon after its organization. He was a Fellow from this county in 1794, a period when the choicest of the profession were elected for that office. His death was the result of a fall, with his horse, down a bank twenty feet high, in a dark night."

Mr. N. G. Pond of *Milford* has communicated the following: After mentioning Dr. Jasper Gunn (for an account of whom see page 75), he says, "his will gives his lands to the sons living in Milford, but to Abel 'my phissick chest with all phissical and chirurgery things in it, also all my phissick books.'"

"About 1690, *Dr. John Durand*, a Huguenot, is first known at Milford, where he married Elizabeth, youngest daughter of Richard Bryan, a wealthy merchant. She was by his second wife Mary, dau. of Benjamin Wilmot of New Haven. It is said that Dr. Durand removed to, and died in Derby, but his son John remained in Milford, and descendants are here at present. With four others of the town of Derby, he was in 1705 excused from punishment for having voted "without having a certificate from the select men as the law requires."

"*Dr. John Fisk* probably preceded Dr. Durand, as his first child Phineas is recorded in Dec., 1682, and his marriage to

Hannah youngest daughter of John Baldwin is recorded Jan. 17, 1681-2. None of the name are now here.

"The tomb stone of *Dr. Jean Harpin*, tells us that he was 'born and educated at Rochfort in France, practiced Physick and Surgery in this place 50 years with much reputation and success, and died Nov^{br} 14th 1765 Æt 74. He married Mary, dau. of John and Mary (Northrup) Camp. His youngest dau. married D^r *Elisha Whiting*, of New Haven. The name no longer continues, but relics of the doctor's personal property are valued by his descendants through the Whitings, and daughters of John 2d. Judge John W. Fowler has in his possession a heavy, three legged, long-handled brass skillet, used by Dr. H. in compounding his medicines.'

"*Dr. William Gillet*, also a Huguenot, first appears on Milford records. in his marriage to Elizabeth, oldest dau. of Thomas and Elizabeth Welch, Nov. 14th, 1722. The publications of the Huguenot Soc. of New York state that he was a clergyman when driven out of France, and that he took up the practice of medicine until he could acquire the language of his adopted country. He probably died in New Milford, where his only daughter had removed with her husband. The Huguenot Society state that he is distinguished by the number of clergymen descending from him, principally through his son the Rev. Elisha who settled on Long Island.

"His son, *Dr. Zebulon Gillet*, of Milford, born 1737, died 1810, married Mary, dau. of Ebenezer Bryan, and must have had considerable practice, as his claims against estates are often found on N. H. Probate records, and as witness to wills, &c. He was eccentric, and tradition says that on his return home from professional visits, mounted on his horse, he would ride through the hall, throwing his saddle-bags off as he passed through to the stable. His bronze or bell-metal mortar (6 inches in diameter) belongs to his great-granddaughter.

"*Dr. Elias Carrington*, born in New Haven May 17, 1734, was the son of Noadiah, and gr.-son of Dr. Abraham Carrington, of N. H. He married Esther, dau. of Ephraim and Sarah (Gunn) Northrup, Feb. 23, 1763, and died Aug. 6, 1800. The inscription on his tombstone states that "for more than 40 years he served his generation as a faithful, candid, skilful and approved Physician, nor was he taken off from the duties of his

profession 'til within a few days of his death." His daughter Esther married Rev. Isaac Foster, of Great Barrington, Mass., and his son John, also a physician in Milford, married Susan, sister of Gov. Charles Hobby Pond, and daughter of Capt. Charles Pond, prominent in the Revolution.

"*Dr. Abraham Tomlinson*, born July 20, 1738; died Dec. 29, 1816; married Abigail, dau. David and Abigail Gibson, Nov. 11, 1760. He added to his duties as a physician, trading with the West Indies, and was able to leave a goodly estate to his children. His name is often found on Milford records, on committees, divisions of estates, appraisals, &c., showing that he had the confidence of his townsmen.

"*Dr. James Clark*, evidently was a well-bred and educated man, from New York city, and lived at the head of the Park (Broad street); but being a loyalist, his property was confiscated, and soldiers were allowed to use his house. He died in New York, date unknown."

Mr. Pond, with faithful diligence, and historical love, says, "I send a copy of an old recipe found among the papers of my gr. gr. grandfather Ephraim Strong (Y. C. 1737).

"Directions given by an apparition first in a dream in the night, and afterward in y^e day time, to Roger Woolcott the 3rd son of Hon^{ble} Roger Woolcott jun^r Esq^r of Windsor in Connecticut, in New England) for the cure of Epileptic Disorders he was then afflicted with, which being then made use of, effected the cure of him the s^d Roger Woolcott y^e 3^d (viz)

"Take filings of steel and Iron each an ounce, Salt Peter an ounce Colts Skull powdered Hors Frog as much as can be pared off all the feet a large Horse, Venice treacle Eight ounces. Make an Electuary according to art, put it into a wide mouthed bottle, Cork it and set it into a warm oven all night, take it out of the oven and set it in the ground $\frac{1}{4}$ of an hour. Take the bigness of a nutmeg every night going to bed. Pound spicnerd and white pine bark together and apply it Poltiswise to your Breast. Use the cold Bath every full and change [of the moon,] that is to say the day before the day after and the [day] on which each [fit] happens.

You must be buried 3 times in the ground for $\frac{1}{4}$ of an hour each time at about a month's Distance."

NEW LONDON COUNTY.

I can add nothing to the minute sketches which Dr. Ashbel Woodward has given us of the early physicians of Norwich, and must be content to mention little besides their names. *Dr. Solomon Tracy*, he says, "was among the earliest, if not the very first physician in the infant settlement of Norwich," and that the "descendants of that name in the male line have held distinguished rank as physicians for more than one hundred and seventy-five of the two hundred years that Norwich has had a history." *Dr. Caleb Bushnell*, who died Feb. 18, 1724-5, *Dr. David Hartshorn*, who removed from his native town of Reading, Mass., to Norwich West Farms, about the year 1700, and died there Nov. 30, 1738; *Dr. John Sabin*, a practitioner in the town of Franklin, and "a captain in one of the Norwich foot companies"; *Dr. Joseph Perkins*, born 1704, a graduate from Yale College, and "distinguished as a daring surgeon," had several sons who were physicians; *Dr. Joseph Perkins* of Norwich, *Dr. Elisha Perkins* of Plainfield, who became celebrated as the inventor of the "metallic tractors," and *Dr. Caleb Perkins* of West Hartford. His grandson, *Dr. Joseph Perkins*, also practiced in Norwich. *Dr. Theophilus Rogers* practiced for awhile in Boston, but removed to Norwich West Farms, and died at Norwich, Sept. 29, 1753. *Dr. Ezekiel Rogers*, his son, soon died, after entering the profession. *Dr. Theophilus Rogers, Jr.*, studied with his father, "was a staunch whig, and was noted for his rigid adherence to etiquette and nicety in matters of dress and appearance." *Dr. Elihu Marvin* graduated from Yale College 1773, studied medicine with Dr. Theophilus Rogers, 2d, entered the army of the Revolution, located at the "Landing," where he practiced, became brigadier-general in the militia, and "was much honored, both in and out of his profession." When the yellow fever broke out in New York in 1798, he visited that city to study the disease, and "became himself a victim to that pestilence." *Dr. Christopher Huntington* resided in that part of Norwich now called Bozrah, and had a son Christopher, who was a physician. *Dr. Benjamin Wheat* studied medicine with his father, Dr. Samuel Wheat of Cambridge, Mass., and continued in active practice for nearly thirty years. *Dr. John Barker*, born 1729, was a physician of uncommon skill, and labored in

the same field for more than forty years; "he was extensively employed in consultation throughout eastern Connecticut, and great deference was yielded to his opinions. He was one of the original memorialists who petitioned the legislature for a medical society." Dr. Woodward says "that he was a man of sparkling wit, quick perceptions, sound common sense, and, not least, a generous heart, but he was not graced with elegance of person or polish of manners, nor did his pointed repartees derive their force from any fastidious selection of words." He was a fair specimen of one of the sensible, active physicians of the olden time, who gained renown for their skill, and some celebrity also from their unpolished manners. But it is comforting to learn that he had no such attachment to the brandy bottle as is reported of those other two rough diamonds, Dr. Hurlbut of Berlin and Dr. Bird of Litchfield. He died June 13, 1791. *Dr. Elisha Tracy* was another of the able men in the profession with whom Norwich has been blessed. He graduated from Yale College in 1738, and "possessed thorough classical scholarship, and was well versed in medical literature; in 1775 he was appointed one of the committee to examine all candidates for situations as surgeons or surgeons' mates in the army." He died in 1783 "widely beloved and lamented." His son, *Dr. Philemon Tracy*, was "honorable as a counsellor and faithful as a physician, grave in manner, courteous in speech, and greatly distinguished in his profession." *Drs. Obadiah Kingsbury, Nathaniel Hyde, and Elisha Hartshorn* were born in West Farms (Franklin), and practiced there; as did *Dr. Benjamin Ellis*. *Dr. John Scott* of Bozrah, *Dr. Luther Manning*, and *Dr. Jedediah Burnham* of Lisbon were practioners there. *Dr. Lemuel Boswell* and *Dr. Benjamin Moore* were both of Norwich. *Dr. Jonathan Knight*, a native of Lisbon, was a surgeon in the Revolutionary army; he subsequently settled at Norwalk, and was the father of Professor Knight of Yale College.

Dr. Joshua Downer, of Preston, was born August 6, 1735.

Dr. Avery Downer, one of our early members, was "the last survivor of the battle of Fort Griswold; he died at Preston, on Saturday, July 15, 1854, aged 91 years, 8 months. He was at Fort Griswold with his father, who also was a physician at the time of the massacre, and assisted to dress the wounds of the

soldiers." I remember that he attended one of our conventions, very near the time of his death.

Among the able physicians given to the profession by Norwich, must be included *Philip Turner*, a native of that town, born in 1740. Left an orphan at an early age, he was taken into the family of Dr. Elisha Tracy, treated with parental kindness, and "though not an academical scholar, received a good early education, and commenced his medical studies under the eye of his patron." He was appointed, as has been stated, Surgeon's Mate of the 4th Regt., raised for the invasion of Canada in 1760. In this expedition he became acquainted with the British surgeons, who were pleased with his intelligence and very affable manners. Upon his return to Norwich he married the eldest daughter of Dr. Tracy, and commenced his practice in that town. He soon acquired an extensive reputation, and was early in the revolutionary army as a surgeon. In 1777 he was appointed Surgeon-General of the Eastern Department, and served with great ability until near the close of the war. He then returned to Norwich and resumed his practice, in which he became very celebrated as a surgeon. Miss Caulkins says, "His skill as a surgical operator was so well understood that he was often summoned to manage critical cases, not only from points far back in the country, but from New York and Philadelphia." Dr. Woodward, in Thacher, ii, 153, says, "Dr. Shippen did him the honor to say, that neither in Europe nor in America had he ever seen an operator that excelled him. In about twenty operations of lithotomy, it is said that all but two cases were perfectly successful. Dr. Turner is an instance of one rising to the highest professional eminence, who never studied or travelled out of his own country." He instructed many students, and, with *Dr. Philemon Tracy*, gave lectures upon anatomy, physic, surgery, etc. "A circular of Benjamin Butler, M.D., announces that he has been regularly educated by the learned Doctor Philip Turner in the sciences of Physic and Surgery."

About the year 1800 he removed to New York, and was shortly after appointed a surgeon to the staff of the United States army. He died in the spring of 1815.

DR. JOHN R. WATROUS

was born in Colchester, March 16, 1754, and died there Dec. 13, 1842. He married first, Lydia Wright, June 10, 1783. She died July 30, 1797. His second wife was Louisa Woodbridge, widow of Nathaniel Woodbridge, of Lyme; married March 27, 1798. She died Feb. 15, 1823. His third wife was Lucretia W. Ransom; married March 30, 1829.

I have not been able to learn where he received his education, but presume it was considered sufficient as his father was a prominent and wealthy gentleman of the time. The first public notice of him appears to be in his appointment as a surgeon in the army of the Revolution, in which he continued until 1781, when active service was about over. He then returned to his native town, where he was in extensive practice, especially as a surgeon, during the remainder of his life, excepting, perhaps, the latter part of it. He was one of the incorporators of the Society, and was president from 1807 to 1812. He was a man of great skill in his profession, and was extensively consulted in the eastern part of the State. His military service gave him an air of authority which entitled him to respect.

A lady who knew him well, says he was very gentlemanly in his manners, and pleasing in his address. He was erect, stout, and always neatly dressed, wearing his ruffles, as was customary at the time; though he was very decided in his ways, yet he was not offensively so, but had his own opinions, and did not fear to express them. He was exceedingly hospitable and liberal in his manner of living, fond of good horses, and good company, but was considered to be prudent and careful. He kept none but colored servants all his life, and I judge they were numerous enough for a house which was celebrated for its hospitality. For a long time it was the headquarters for the southern students attending Bacon Academy.

A gentleman, native of the town, tells me that he was one of the most important and respected men in it; that he was very social in his habits, and was regarded by the boys with the greatest awe. "I always took off my hat when I met him, and he courteously returned the salute." Colchester then had its full share of wealthy and important men, and when they gathered at the post office, their conversation and the discus-

sions were the wonder of the gaping crowd. Those days have passed, with their fine manners and quaint dress, and with them have gone that outward show of respect for age and position, which was common all over the colony or State. No children are now instructed to make their obeisance or courtesy to their elders, in passing, or pay to them any usual mark of respect. The custom which was once common in New England, still lingers in some parts of the Old England, where I noticed that the children at play near a schoolhouse drew up in line at our approach, boys and girls, and paid their respects, as we were accustomed to do, many years ago.

As illustrating his fearlessness and "decided ways," the above gentleman gave me this story. He had suffered pecuniarily in some speculations, and had taken as boarders some of the students of the academy. The table was bountiful, but one of the boys was never satisfied, and repeatedly asked for something which was not placed upon it. This was borne with patience for a while, until the doctor could endure it no longer. When the article was brought by the servant, he said "let us suspend business: I should not like to partake of food upon which the blessing of God has not been asked," and then repeated his former petition. The effect was good upon the capricious student, and he was troublesome no more.

I have been favored with an examination of his ledger or book of accounts, which commences in 1781, and terminates in 1790. There is considerable to be learned from it, not merely in matters relating to his profession, but also to the prices of grain, provisions, labor, clothing, shingles, boards, etc. The negroes must have been numerous in Colchester, for there are many charges to Cumbo Negro, Dorus Negro, Boston Snobo, who may have been an Indian, Phillis Negro, and Prince Williams Negro. His surgical practice must have been large, for there are frequent charges for "rectifying" and "setting" limbs, "dressing do," "opening abscesses," "cutting a tumor from his wives head, dressing and means, 3/," &c. If he had much practice in obstetrics it is not noticeable in his day book; the business doubtless was in the hands of the midwives. One charge is "To visit his wife assisting in delivery, &c., 12/," and this appears to have been the usual fee.

He doubtless felt at liberty to charge for more than one visit

in the same family, if more than one person was prescribed for, as follows: "To part of a visit, and Cort. Peruv 2/: To part of a visit and Ext. Saturni 1/5."

He credits, 1787, "Scipio Hazard, By Hog Yoke /9, 2 watermelons and muskmelon 1/,"—John Russ. Hebron is credited, 1790, "3/ for a Cedar Pail"—Solomon Sawyers' account of 1/ is settled "by his running away 1/"; and an account against Moses Dunbar is balanced in the same way. He must have had differences with Thomas Clark, for his account of £1—15—8, is credited "By a judgement of Court against him for £1—15—8." Arauna Kilborn is credited 3/6 "By his running away and not hearing of him for 20 years." John Hazel, negro, is credited "By his running away, poverty, and death, £1—18—0." He charges Stephen Otis, 1783, "6/ for visit and dressing his thigh."

As nearly as I can determine, a charge of 2/ extra was made for a visit at night. "To amputating and dressing his finger 3/." "To Hebron for a visit and bleeding 6/." Drawing a tooth is 1/, sometimes /9. An account extending from 1784 to 1789, amounting to £20—10—3, is settled "By a Mortgage Deed of his Land in full, £20—10—3." And another account commencing in 1783, is settled in 1790, by adding 6/ as interest. 1784, John Clark is charged 1/6 for "Calling and extracting a Corn from his Child's Nose." To an account against Hallam Latimer of New London, 1/ as interest was added. In 1789, Violetta Waters is credited "By 4½ weeks Nursing @ 5/, £1—2—6." In 1787, Walter Parker is credited "By a Cathartic returned, 1/." 1790, an account against Ann Bridges of 6/ is credited "By my neglect to present my acct. to administrator 6/; but in 1809, he enters under this, "Paid by her son Samuel in Full."

He appears to have charged clergymen for his services. An account against Rev. Ephraim Little in 1786-7 of 19/ was paid by his executor, Mr. Beadle. And he was fond of resorting to the law for collecting his dues; an account for visits and medicine in 1786, is credited in 1802 "By her acct. being sued in New Hampshire, and her Husband plead *Out Law* and I lost the Debt and Cost, £1—10—4." Another account in the same year is settled "By judgement against him before Esq^r Dutton, 0—15—6." Another is settled "By being a

poor old Man Death and nothing left 16 — 10"; and another in 1791, of £4 — 18, "By his Knavery and Poverty, Disinclination and Inability"; and another against William Shore, extending over several years is balanced in 1790, "By his Death, and no property left, a poor Indian, £4 — 7 — 6." The poor patients, and the forgetful ones, and unwilling, have continued with us to this day. In 1786, sundry charges for visits and medicines are made amounting to 15/5, and the account is marked "as settled" in 1808 as follows, "By entirely forgetting who he was, or when he went off, and not knowing where he now is or ever will be." An account against Stephen Beckwith, running from 1783 to 1785, is settled in 1788, he having received during that period, "a Pillion 12/, a pr of stockings 4/, an old shirt of Home Cloth 5/, and other articles amounting in all to £1 — 13 — 5." The doctor's bill is £1 — 11 — 5, which is made equal to Beckwith's bill by adding 2/ as interest.

At various times there are entries that he met in consultation, Dr. Mann, Dr. Mosley, Dr. Thomas Skinner, Dr. Sutter, Dr. Scott; and Dr. Arnold.

Among the remedies which he used, were the following: Emetics, Cathartics, Bleeding, quite frequently, Guaiacum, Caryophil, Indic, Calomel and Jalop, 1/ a dose, Rad. Serpentar, Virginian. Rad. Senega, Sal. Nitre, Ol. Ricini, Cort. Peruv, Gm. Tacamahac, G. Camph, Bals. Copaiv, Flos. Sulphur, Borax, Rhubarb, Flos. Cham, Sal. Glauber, Senna, Tart, Antimon, Crem. Tart, Ipecacuan, Rad. Dianthos, G. Ammoniac, Laud. Liquid, etc. Of compounds I find these: Anti-hysterical pills, Icteric do., Deobstruent do., Hoopers do., Saponaceous do., Pil. Universalis, Alterative do., Hypochond. do., Pil. Cochiae, Neurotic drops, Bateman's do., Emp. Corroborans, Discutiens do., Dyachlon, Cerat. Turneri, Ung. Coeruleum, Ethiops Mineral, and other preparations of Mercury, Spir. Sal. Marin, Spir. Lavander, Spir. Minder, Cordial Composition, Cathartic Solution, Aq. Ophthal, eight alterative does 2/, Elix. Asthmat, do. Salutis, Stomat. Bitters, Hiera Picra, Liniment Arcae, etc., etc.

Not the least interesting items in this book are the payments for labor, wheat, beef, etc. Aaron Barbour, of Hebron, is credited July, 1789, "By 1300 Hay @ 1/6, 19/6." Veal is 3/ pr. pd. in 1781, and 2/ in 1783. John Graves is allowed 3/ for a

bushel of corn in 1783, and $3/6$ for a bushel of rye; in 1791, he pays Richard Tuck $3/$ "for a 2 Bushel Basket, and $1/$ for a small basket." He charges John Taintor, "To $2\frac{1}{2}$ Barrels Cyder £1, To 62 Galls. Rum at $5/$." He credits John Ayers "By $25\frac{1}{4}$ lbs. Beef @ $2\frac{1}{2}$." Ezra Clark is charged 1790 "for 4, c Hay @ $2/6$, $10/$, To my Horse for his son to ride in Troop $3/$." In 1787, butter is credited at $/8$ per lb. and Cheese at $/5$. "A Wooden Mortar $3/6$, two axe helves $2/$." 1789, "Billy Bascom of Lebanon is pd $/6$ for a shad"; the price varied from $/5$ to $/8$. "A Steele Wedge Wt $\text{£}1\frac{1}{4}$, $1/6$," "5 yards Tow Cloth $1/6$, $7/6$," "Cotton Wool $\text{£}1$ — 13 oz. @ $2/9$, $5/6$." 1791, "a pair of Shoes $6/$, a pr of Boots 1 — 13 — 0." 1788, "By 4 Bushel of Winter Apples $4/$." In 1790, he credits Ichabod Buel, Jr., of Hebron, "By 165 Floor Spike $7/2$." In 1787, he credits Jesse Craw, "By 3000 Chesnut Shingles, @ $15/$, £2 — 5 — 0."

For wages he pays 1786, Joseph Jefferson $9/$ "for 3 days work at Haying." He credits Sarah Puffer, "By $3\frac{1}{2}$ lb. of Butter @ $/8$, By a days work of her son 1 — 6. By her daughters Betty spinning $6/$." "Sue Boham for two days Work at Washing $2/$." Daniel Welch, 1783, "By half a Days Work digging Garden $1/6$." John Fox, 1790, "By $\frac{1}{2}$ days work burning Brush $1/3$, By a Days Work mowing Bushes, $2/6$. 1788, Aaron Carter, By a Days Work in digging Stone, $2/6$."

From these items we may gather some idea of the man, of the method of his business, of his dealings with his patients, and something also of the people, their wages, and, in the scarcity of money, the way in which they paid their debts. "He was very positive in his ways," said one who knew him, but clearly, as do the profession very generally — he lost much by the inability of his patients to pay for his services." A relative says she did not remember her grandfather very well, but he was a very sociable, hospitable man, and one who never collected his bills."

FAIRFIELD COUNTY.

Francis Forgue had, according to Dr. Blakeman, been a surgeon in the French forces engaged in the defense of Canada against the English. Instead, however, of returning to his native country, he located in Fairfield between the years 1755

and 1760, where he practiced as a physician of considerable distinction until his death in 1783. He seems to have been well educated, independent in character, pleasing and affable. I follow Dr. Blakeman, in only naming *Dr. Nathaniel Hubbard* of Stamford, who died 1772; *Dr. John Wilson* of the same town, who commenced practice about 1760, and left four sons, all physicians; and *Dr. Samuel Webb*, who graduated at Yale College about 1779, and was long a practitioner in Stamford.

The same authority states that "there were several physicians of the name of *Tomlinson* who formerly resided and practiced medicine in Stratford," and "two or three of the number were of considerable eminence," one of them, *Dr. William Agur Tomlinson*, espoused the cause of the king in the war of the Revolution, as did one of the two brothers *Clark*, who were physicians, and suffered very much, as did like objectionable people in those stirring times. Another physician in the same place was *Dr. Russell*, of whom Dr. Blakeman says he "is unable to state anything."

Dr. James Potter, of New Fairfield, was a physician of considerable eminence, who was very active in his efforts to secure a medical organization in this State. Dr. Blakeman does not think he was especially distinguished above other practitioners in the county, but his energy and persistency gave him a notoriety, which seconded and undoubtedly aided in securing our charter. He certainly is to be commended for his zeal. He was a member of the New Haven County society, before that of Fairfield was organized. The long journeys which he made in attending medical meetings rather put to shame the non-attendance of some in our time. Although his practice was extensive, yet he was so interested in these gatherings that he paid little regard to distance. He was probably a fair specimen of our old social doctors, whose families held friendly intercourse with one another, whose easy ways, and love of visiting, and story telling, made them at home wherever chance or business carried them. It was at one of the visits to a medical meeting, perhaps at Sharon, at which he was to deliver an address, that he spent a night, says Dr. Blakeman, with his friend, Dr. Davis. "The orator being elated with his anticipated exhibition, and several of his acquaintances, among whom was a county court judge, calling on him in the evening, they united with his host in persuading

him to rehearse before them his grandiloquent speech. After the family and domestics, including an African, had been summoned, with the view numerically to multiply the audience, the doctor, with oratorical pomp, mounted the rostrum (a large arm chair), and delighted himself and audience by its rehearsal." A specimen of his skill as an orator will be further shown. He died 1804, aged 67 years.

"*Dr. Daniel Clifford* was the first resident physician in Bridgeport. His residence was on State Street; the same location is now the site of the residence of Peter W. Wren, Esq., No. 322 State Street. He had sons and daughters. It is not known that any descendants of the sons remain. It is said that he was drowned, but the date is not given."

"*Dr. James Eaton Beach* settled in Stratford in 1778, and a full account of him may be found in Orcutt's History of Stratford and Bridgeport, p. 514."

Dr. Wordin says: "You will not forget that the early ministers combined medical learning with their theology. Among the earliest of these was *Rev. Richardson Minor* of Trumbull, a monograph on whom has been published by our Historical Society."

WINDHAM COUNTY.

I have not been able to discover the names of many of the physicians of this county. *Dr. Elisha Lord* resided in Pomfret, and was probably the son of Dr. Elisha Lord of Norwich, who had been a surgeon of the forces against Canada, and who, with other physicians from Norwich, petitioned the General Assembly for a charter of a medical society in 1763. He could not have been the Dr. Lord who removed to Pomfret, as represented by Dr. Sumner, as Elizabeth Lord, Jun., of Norwich, in a memorial to the Assembly in 1768, represents "that her late husband, Doct. Elisha Lord of said Norwich, died intestate on the 20th day of March, 1768." etc. Dr. Lord of Pomfret, the son, was one of the physicians mentioned as the incorporators of our society in 1792, together with *Dr. Albigence Waldo*, of the same town. *Dr. Elisha Perkins* and *Dr. Isaac Knight* of Plainfield were also incorporators. *Dr. Joseph Palmer* was a resident of Ashford; a son and a grandson were also physicians there.

Dr. Lowell Holbrook of Thompson sends me a letter full of

matter relating to physicians of Windham county; but as they came into the society after 1792, I regret that it cannot be used, and will only refer to *Dr. Morse* of Woodstock, "of whom it was said that in a practice of forty years, he never terminated a case of labor instrumentally, never owned a pair of forceps, and never lost a patient. I think we should in our day not feel justified in such a course, or expect such favorable results." Another instance of like character may be mentioned concerning *Dr. Eleazer Hunt* of Coventry, who, when over seventy years of age, came to Hartford to purchase a pair of forceps. In all his long life he had never found it necessary to use them. But being troubled shortly before, a much younger man had been sent for in consultation, who quickly and safely delivered the patient. The women in the town, he said, "would not now be content unless he owned a pair of forceps," and hence the visit to the city. Some of these old practitioners were of wonderful patience, as well as the women.

LITCHFIELD COUNTY.

In Litchfield County the number of able physicians was also large. Among them was *Dr. Seth Bird*, who was born in the little town of Bethlehem in 1733, and settled in Litchfield, where he died in 1805. He studied with the famous *Dr. Hurlbut* of Berlin, and like him and with him understood fully the powers of brandy. Though his general education was limited, yet for acuteness and correctness of judgment in his profession he had few superiors. He was very extensively employed, yet was a model of punctuality in his engagements, and "reproving a young physician for a short delay, whom he met, observed that he had never made a physician wait a moment during a practice of forty years," which might be considered a pretty severe rebuke to such of us who habitually are fifteen minutes behind an appointment. With such punctuality he was able to attend to a large business, which was serviceable to the public and profitable to himself. He was very highly regarded in his time, and we may place him among the very able practitioners who were quite as likely to be found in the smaller towns as in the larger ones of the state.

Dr. Benjamin Welch of Norfolk was another celebrated practitioner of this county, who was for a long time the principal

physician of this part of the state. Not the least among his merits is the fact that he brought into the profession five of his sons, which is enough to show that he had no belief in that saying of an occasional physician, "that he would never advise his son to become a doctor," thus indicating that his own life had been a failure.

In connection with this medical family of Dr. Benjamin Welch, it is proper to insert the following account from Benjamin W. Pettibone, Esq., of Winchester:

"The mother of the three older sons was Louisa Guiteau. Her father was *Dr. Ephraim Guiteau*, whose name appears as a member of the Litchfield County association, formed in January, 1767. He was a native of Bethlem (then part of Woodbury), came to Norfolk while a young man, and died there April 21, 1816, aged 79 years. Most of his active life was in Norfolk, but a few years (family tradition says ten) were spent in the adjoining town of New Marlborough, Mass., whence he returned to Norfolk."

Mr. Pettibone also communicates the following:

"LITCHFIELD COUNTY, SS.

JUDEA SOCIETY IN WOODBURY, June 15, 1761.

"These are to certify whomsoever it may concern that Doct^r Ephraim Guitteau the Bearer has served in this Society, as an apprentice with Doct^r Abraham Thomlinson (an able and Skillful Physician, and a good practitioner in Physick and Chirurgery) for the space of two years last past, and has been industrious in his studies and endeavors to learn the Physicians Art, and tis supposed he has obtained a good degree of skill in the theory of Physick and Chirurgery; and has had some practice with said Tomlinson, and some by himself since his apprenticeship was up (which is about a month.) He is esteemed a young man of veracity and honesty, and likely to be servicable to mankind as a (Physician or Surgeon) wherever he is called and employed.

Thus certifies

INCREASE MOSLEY,

Justice of the Peace.

DANIEL BRINSMADE.

Another distinguished physician, of this county, was *Dr. Samuel Woodward*. He was born in Watertown, 1750, entered Yale College 1776, and aided in the defence of New Haven when attacked by the British troops. War, which demoralizes as well as destroys, had its effects upon the college, which he soon left for the study of medicine, though it had been his design, and the expectation of his parents, that he

should be a clergyman. He was a pupil of Dr. Sheldon of Litchfield, and settled in Torrington, where, with a short exception, he spent the remainder of his days. His son, Dr. S. B. Woodward, who furnished the sketch of him which appears in Williams Medical Biography, speaks of him in filial, though probably not in extravagant, terms. He had been apprenticed to a shoemaker and tanner, with whom he remained until he was twenty-one years of age. It was the custom of our sturdy democracy of that age to bring up their children to labor; the families were so large that all could not be occupied upon the farm, and so some became mechanics, a few physicians, and a few, in answer perhaps to the hopes and prayers of the mothers, became clergymen. The one who became a shoemaker was very likely the equal in natural aptitude to any of them. He may have possessed a sound common sense, which in all his affairs of life was a most valuable possession, and without which, talents, however brilliant, and energy, however great, seldom bring to their owner very much happiness or gain.

It was from this solid New England stock that Dr. Woodward obtained his origin. By his own exertions he secured his education, and by his intelligence and faithful attendance to his business became one of the distinguished physicians of the county. "The characteristic features of his mind were sound sense, and correct judgment. He was fond of reading and no less fond of conversing upon medical subjects. In his practice he used but few remedies, and those of an active kind. He probably taught not less than forty medical students, and was considered a very thorough and excellent teacher. He was celebrated for his prudence, industry, and strict temperance, and was a man of great moral worth." He retired from active practice at the age of 72. It is a wise foresight which is not given to every man, to leave his friends before they begin to leave him. He left three sons, who were physicians, and who, like himself, became members of the Legislature.

Dr. Daniel Sheldon was born in Hartford, 1750, studied with Dr. Bird, and commenced practice in Washington, but removed to Litchfield in 1784, where he remained until his death, in 1840. He was small, slender, and delicate, and disposed to consumption. Dr. Williams, who knew him well, says that after the discharge of an abscess which had formed

in his lungs, "he rode on a bleak and rough country more than half a century, always on horseback, performing an immense amount of business, while his emaciated and extremely delicate frame, drawn over almost to a curve, would indicate such a feeble state as entirely to forbid any active employment." This "ulcer" in the lungs, if it were in the lungs, continued to discharge for two years, and during this time Dr. S. stated that he had taken such a quantity of Peruvian bark that the "grounds," rejected after infusion or decoction, "amounted to more than two bushels." But this article alone did not constitute the whole of his treatment, for "he took from two to four drachms of opium daily, for nearly, or quite, forty years. In old age he left it off without detriment, gradually diminishing it for two or three years." This enormous and continued use of opium for such a length of time is certainly wonderful, but is not more wonderful than his ability to stop it in his old age; for of all our bad habits, none is more difficult of cure than the "opium habit." It has occurred to me that the continuous use of opium, in some non-tuberculous disease of the lungs, has been of a positive benefit to the patients, and has prolonged their lives for many years; but I never knew of such doses being used, or considered them to be necessary. It would be interesting to learn, if the "corpulency" which came at the close of his life was in any way due to the discontinuance of the opium.

He had a very extended reputation in the treatment of consumption, and so beneficial did he think opium to be in his own case, that he did not hesitate to prescribe it for others. Dr. Williams says that "his remedies were simple, but effective. Substantial diet, narcotic and tonic remedies, and riding on horseback, which he considered superior to all other means of restoration, and quite superior to all other modes of exercise."

He was a skillful physician, diligent and observing, fond of books, cheerful in temper, familiar with his brethren, and his last days were spent, as they deserved to be spent, "in tranquility and ease." He was one of the incorporators of our Society, and a member for nearly half a century.

At the second centennial celebration of ancient Woodbury, in 1859, Dr. David B. W. Hurd said: "From the best sources of information extant, it would appear that no physician accom-

panied the first settlers in the valley of the Pomperaug, and how soon one may have arrived afterward does not appear. The earliest date of such physicians' residence here, set down in Cothren's History of Woodbury, is 1701. And it would appear from whatever information I can gather, touching this matter, that the first settlers resided here without a competent medical adviser, for a period of about twenty years." Without naming all, he says, "It is difficult to pass silently by such names as Perry in Woodbury, Hawley and Meigs in Bethlem, Fowler in Judea, Eastman in Roxbury, and Graham in Southbury."

Rev. Anthony Stoddard was ordained over the church in Woodbury in 1702. He is worthy of remembrance as one of the eminent clerical physicians of the colony. I quote what Mr. William Cothren said in his address at the celebration, as showing how useful he was in many ways:

"To his ministerial labors he joined those of a lawyer and physician. Like many of the early ministers, he prepared himself for the practice of medicine, that he might administer to the wants of the body as well as those of the mind. In this capacity he was often called. He acquired a very good legal knowledge for those days.

. . . He was clerk of probate for a period of forty years, during which time he drew most of the wills of his parishioners, and did the greater part of the business of the office, the judge for the time being approving his acts. All the records of the court, during the time he was clerk, appear in his handwriting. He was also one of the largest farmers in town. After a life of arduous and successful labor, the second pastor, at a good old age, entered into his rest. He died, Sept. 6, 1760, in the 83d year of his age, and the 61st of his ministry, after a severe illness of 'about two days continuance.' He lived and died enshrined in the hearts of his people."

Dr. Josiah Everitt studied medicine with Drs. Bird of Bethlem, and Hall of Woodbury, and settled in Winchester as a physician. He died Feb. 5, 1829, aged 80 years.

In his address at the Litchfield County Centennial Celebration in 1851, *Judge Church* says: "As early as January, 1767, a medical association was formed in this county, composed of the most eminent physicians then in practice here. Its object was to establish rules of practice and intercourse; promote medical science by providing for annual consultations and dissertations, and to protect the reputation of the profession and

the health of the community, from the inroad of ignorant pretenders to medical science. Among the names of the gentlemen composing this body, I see those of Joshua Porter, Lemuel Wheeler, Joseph Perry, Seth Bird, William Abernethy, Samuel Catlin, Simeon Smith, Cyrus Marsh, Ephraim Gitteau, John Calhoun, etc. One of the earliest physicians of the county was Oliver Wolcott. He was the son of Hon. Roger Wolcott of Windsor, a former governor of the colony. He had served as an officer in the French war, and settled himself in Goshen before the organization of the county, in the practice of his profession. Whether he continued in practice as a physician after his removal to this town, is not known; probably, however, his official duties as sheriff prevented it. . . . He is said to have been a man of uncommon diffidence, and distrustful of his own ability."

MIDDLESEX COUNTY.

Dr. John Osborn was born at Sandwich, Mass., 1713, and graduated at Harvard College, 1737. His attention was at first directed to divinity, which he soon left for the study of medicine, and settled afterwards at Middletown. He was somewhat of an invalid, I judge, perhaps not very forceful, "very respectable as a physician, but was more celebrated as a scholar and a poet than most of the literary men of his day." He died in 1753.*

Dr. John Osborn, son of the preceding, was born 1741, and died 1825. For more than sixty years he was in practice at Middletown, and secured a reputation inferior to but few in the State. "He was a man of very extensive reading, for many years possessed the best medical library in the State." He early interested himself in inoculation as a preventive of the small-pox, and was the first in Connecticut who introduced the antiphlogistic regimen in the treatment of that disease. He became quite distinguished, both as a physician, and as an instructor of many pupils.

* "Here is interred the mortal remains of Doctor John Osborn.— Ask nothing further, traveller ; nothing better can be said, nor nothing shorter. Ob. 31st. May 1753. Æ. 40. Life how short, Eternity how long.

"The monument on which this is engraved had formerly a very pompous inscription, furnished by the executors. When his son of the same name came of age, he had the whole effaced, and inserted the above."— *Barber's Conn. Hist. Col.*

TOLLAND COUNTY.

I glean, mostly from the address of Dr. Charles F. Sumner, in 1871, the names of the following physicians, who lived and practiced medicine in Tolland County. I can do no more than mention them, though some interesting particulars have been recorded by him. It has been a part of the plan of this paper, to put in its record the names of all physicians which I could find mentioned in any publication, and to furnish some sketch of a part of them, if it were within my power. To do this many authorities have been consulted, and the list of practitioners previous to 1792 has become quite large. Very likely many have not been found, for they lived at a time when newspapers were few, and our ubiquitous reporter was not at hand to chronicle every surgical operation, or every visit of the doctor to the mountains or to the seaside. I hope it is correct as far as it goes.

The population of the colony, down to the year 1700, was not large; as a consequence the number of medical men was small. Not every town possessed a physician, nor did every inhabitant think that he needed one. As the seventeenth century was drawing to its close and the people were fast increasing, the physicians increased also. The fruitful birth-rate of those times, when from eight to twelve children in a family were not uncommon, would astonish the mothers of our day, and perhaps astonish the fathers also. It was the beginning of that fertile population which has sent its representatives all over the Union, to commence again the hard life of an emigrant, and to lay the foundations of further self-government. It is difficult for one who has not investigated this subject to conceive of the hardships which our ancestors endured. The first settlers, however, were borne up by a religious enthusiasm, which made light of great sufferings, and filled them with hope of a more comfortable and better future. It was by their own exertions that their condition was to be improved; and hence that necessity for larger families, so that the industry of all might contribute to the general support. The physicians in the colony were laborers with the people, and were engaged in different avocations. As we have seen, some were workers in brass, in grist mills, in saw-mills, were farmers, were merchants, schoolmasters, surveyors. Gershom Bulkeley owned a mill at Dividend, in Wethersfield,

and some of the charges for drawing logs, and for work upon the dam, are to be found in his account books. Even the ministers worked their small holdings, and a few of them were the owners of many acres. All were members of a hive of industry.

It is in such conditions that men develop themselves truly! It is a very necessity which compels their exertions, which strengthens their bodies and invigorates their minds. It gives to man a consciousness of his ability, a sense of independence, and a desire to take care of himself. Among such a people, our physicians grew to manhood; it made them thinking, self-reliant men, able to cope with the ordinary affairs of life, and willing to meet uncommon or extraordinary ones. As books were few and difficult to be obtained, they were forced to seek their own instruction, or obtain it from the few educated men to be found. From necessity, therefore, they were close observers of symptoms of disease, and, as I have before said, were probably more successful than we might suppose. There is no reason to think they were not as anxious to learn, and as willing to be taught, as any of the students of the present time. If we wonder at the worthless articles which were given, or at their peculiar methods of practice, we may ask something of the pardon for the same which we demand for a belief in witchcraft, or for the exercise of religious intolerance. Their life had in it those elements which make sure the permanence of the republic, a republic which is dignified by honest labor, and is not poisoned by excessive wealth.

Among the early physicians of the county, and the first who settled in Tolland, was *Dr. James Stimpson*, who came from Lynn, Mass., 1716. Died March 10, 1758.

Dr. Thomas Barnard came from Hadley, Mass. "A good physician." Died 1780.

Dr. Samuel Cobb, born in Great Britain 1716, settled in Tolland 1743, and was the father of twelve children. "He stood high in the profession, and possessed the entire confidence of the community."

Dr. Jeremiah West, a native of Tolland, born 1753, and a practitioner there at the time of his death. He graduated at Yale College 1774, and is the one who said that the physicians of that part of the State were "in a lethargy," because of the failure to obtain a charter for a Medical Society. But he was

not in a "lethargy" himself; he was active in organizing the county society, and was many times a Fellow. "He had a large practice, was skillful and successful, and was regarded as at the head of his profession in the county." He was much in public life; was social and agreeable, and was doubtless a merciful Justice of the Peace. He is said to have weighed about three hundred and fifty pounds, which was a heavy weight to be carried for years over the hills of Tolland County. He died Oct. 6, 1806.

Another physician of Tolland was *Dr. Wm. Grosvenor*.

Dr. John Hutchins came to Bolton in 1747, and practiced there until the time of his death, 1759.

Dr. Ichabod Warner went from Windham to Bolton about 1761, was "a man of ability, stood high in his profession, and held public office during most of his life. He was a large man physically and mentally," and weighed from two hundred and fifty to two hundred and eighty pounds.

Dr. Samuel Cooley, born in Bolton, 1755; practiced medicine there, and died in Ohio, 1814. He was the father of the *Dr. William Cooley* mentioned in the note to *Gershom Bulkeley*.

Dr. Jonathan Fuller, born 1735, located in Mansfield, and died 1817. "He was regarded as a good physician and as an honest, exemplary man."

Dr. Jesse Williams was born in Mansfield 1738, and practiced in that town until he died, in 1815. He was a graduate from Nassau Hall, and "was considered a skillful physician and a most worthy citizen." He was most earnest in overcoming the prejudice against vaccination, in which he succeeded. He was for many years one of the Justices of the Peace.

Dr. Joseph B. Wadsworth was born in Hartford in 1747, graduated at Yale College in 1766; he settled in Ellington, and was a surgeon in the Revolutionary army. He had the reputation of being an excellent physician and surgeon, and is "described by the old people as the handsomest man and the most polished gentleman they ever knew. A peculiar neatness, and elegance of taste and style, were marked characteristics. He wore a large three-cornered hat, scarlet coat, white or yellow vest and breeches, and topped boots—a costume which, it appears, was rather common among those who occupied a high rank in society at that period."

Dr. Joseph Kingsbury was born in Ellington in 1756. He was in the army for several years, and participated in several engagements. "He was a self-made man, having obtained his education by his own unaided exertions. He was a good physician, and was a rare instance of one who had the good fortune to ascend from humble life to the highest rank in his native town, and yet retain the warm friendship of the early companions whom he had so greatly distanced."

Dr. Joel Carpenter of Ellington was born in 1720, and died there 1789. He had two sons, both of whom were educated as physicians. He also was a surgeon in the army, and was a man of ability.

His son, *Dr. Ruggles Carpenter*, practiced medicine in Ellington and Tolland, and afterwards in New York State, where he died about 1840. "He was a member of the Tolland County Medical Society from 1792 to 1811, and is represented to have been a learned man and a skillful physician."

Dr. Obadiah Hosford of Hebron, has already been noticed.

Dr. William Sumner was born in Boston 1699. He settled in Hebron in 1724, and continued to reside there until about 1768, when he removed to New Hampshire, where he died 1778. "He is represented as having been highly respectable and useful in the church and community."

Dr. Dan Arnold and *Dr. David Sutton* were members of the county society at its organization.

Dr. John S. Peters, of Hebron, was born in 1772. "He commenced poor, and by his own exertions became highly noted in his profession, and in public affairs." He held many offices in the State Medical Society, and was its President from 1829 to 1832. He was fond of political preferment, was justice, judge of probate, member of the legislature, lieutenant-governor, and governor from 1827 to 1831. He was also an extensive farmer. In a memorandum made not long before his death, he said, "I have had my full share of the labors of a country physician, and more of political offices and labors than ordinarily fall to the share of one citizen." He died 1859, and was never married.

Dr. David McClure dwelt in Union, and also in Stafford.

Dr. Asa Hamilton, of Somers, was a member of the Society in 1792.

Dr. Percival, of Somers, served in the army, and practiced in the town until he died.

Dr. Samuel Willard, of Stafford, was a member in 1792, and read in 1804 before the State Medical Society an essay on the Stafford mineral waters. He died in 1821.

This paper of *Dr. Sumner* is a very valuable one. If as faithful a chronicler in other counties should complete a like work, we might obtain a list of most of the medical men who have practiced in Connecticut previous to 1792.

Considerable information has been furnished by *Dr. E. F. Parsons* of Enfield, concerning several old physicians in that neighborhood. This has been condensed by *Dr. R. W. Griswold*, as follows:

"*Dr. Asa Hamilton* practised medicine in Somers from 1779 to 1801. He was a son of *Josiah Hamilton, Jr.*, and a grandson of *Dr. Josiah the senior*, both of whom lived and practiced in Brookfield, Mass. The senior *Hamilton* came to this country when a boy, from Scotland. *Dr. Asa* was born in Brookfield in 1758, and began business with his father, while in his teens; married at twenty, and some months later took his wife and son on his horse, and rode to Somers, where he located. He is said to have been a surgeon in the army of the Revolution. He had quite a reputation for surgical work in Somers, and the adjacent towns, during his practice there of twenty-one years. Three of his sons became physicians; one of these, *Horatio A.*, practiced in Sandersfield, Mass., and later in Somers, and then in Enfield. Two of *Horatio's* sons followed their father in the same profession in Somers, *Horatio, Jr.*, and *Erskine*. *Horatio junior's* son, *Arnold*, is a physician in Ohio, and has a son who is also a physician. *Theodore*, the son of *Erskine*, is a physician in Springfield, Mass., and he has a son about to graduate in medicine. For seven generations in succession, this family has been engaged in medical practice."

It cannot be said of many families that they have been so long engaged in well doing.

THE APPROACHING REVOLUTION.

1775. The General Assembly appointed *Jared Potter* surgeon, *Levi Ives* and *Isaac Chalker* surgeon's mates, 1st Regt.; *William Jepson*, surgeon, *Daniel Southmayd*, *John Richard*

Watrous, surgeon's mates, 2d Regt." From an account book in the Comptroller's office it seems that James Cogswell served as surgeon in this regiment, and that Jeremiah West was surgeon's mate.

John Spalding, surgeon; Penuel Cheney, Elijah Adams, surgeon's mates, 3d Regt.

Lemuel Wheeler, surgeon; Daniel Sheldon, Abel Catlin, surgeon's mates, 4th Regt.

John Wood, surgeon; Asel Fitch, Samuel Whiting, surgeon's mates, 5th Regt.

Phillip Turner, surgeon; Thomas Fosdick, Josiah Hart, surgeon's mates, 6th Regt. "Simon Wolcott was surgeon, Fosdick and Josiah Hart, surgeon's mates."

Francis Forgue, surgeon; Ebenezer Beardslee, Isaac Swift, surgeon's mates, 7th Regt.

Phillip Turner, surgeon; Albigense Waldo, Silas Holman, surgeon's mates, 8th Regt.

Josiah Hart, surgeon's mate Col. Parsons' Regt.

Dr. Isaac Mosley of Glastonbury was chosen Ensign of a company formed there. Dr. John Waldo, of Coventry, was ordered to be paid for services in Col. Huntington's Regt. Dr. John Dickinson was one of a committee to examine where mines of sulphur were to be found.

1776. Jan. 30. Dr. Robert Usher, of Chatham, Surg. and Physician, 1st Regt.; Dr. Elias Norton, surgeon's mate. Dr. Elisha Perkins, Surgeon and Physician; Dr. Thomas Gray, surgeon's mate, 2d Regt.

Feb. Dr. John Ely of Lyme appointed Captain of a company.

May. Dr. Amos of Greenwich chosen deputy to General Assembly.

July. Dr. John Ely was appointed to visit the army to the northward, infected with small-pox, and is mentioned as "Major John Ely, physician and surgeon, and a gentleman who has had great experience in that disease. On motion of Dr. Ely, it was allowed that he may carry with him to the northern army where he is going by order, &c., to take care about the small pox, &c. viz. one Peter Granger, a French neutral much used with him to nurse the small pox, &c, to be improved for such purposes as he shall find necessary and convenient."

Dr. Usher of the New London Regt. "had liberty to purchase and take up medicines for the use of said regiment, of Dr. Lothrop, or Dr. Dyer."

Dr. Joshua Elderkin was given authority to purchase tents, &c.

Dr. Thomas Russell of Col. Swift's regiment, furnished with "proper medicines" for the northern army.

September. Dr. Thomas Gray, appointed surgeon's mate and physician of ship *Oliver Cromwell*.

October. Dr. Samuel Lee of Windham, appointed surgeon and physician of ship *Oliver Cromwell*.

Dr. Benjamin Dyer exhibited an account of sundry drugs, &c.

Up to this period the General Assembly had appointed the necessary surgeons, or the Governor had filled their places in case of inability to accept, or from declination. But a new system was needed; and, at the suggestion of the physicians of Norwich, the assembly chose a Committee of Examiners, who should examine such persons within this State as may offer themselves to serve as surgeons and surgeon's mates in the Continental army, and upon full evidence of proper and sufficient qualifications to give certificates accordingly.

This committee consisted of the following medical gentlemen, from different parts of the colony, any three of whom were authorized to act:

Alexander Wolcott,	Platt Townsend,
John Dickinson,	Amos Mead,
John R. Watrous,	James Cogswell,
Eneas Munson,	John Clark,
Leverett Hubbard,	Elisha Lord,
Elisha Tracy,	Samuel Lee,
Elias Carrington,	Reuben Smith,
Benjamin Gale,	Elisha Sill,
Eleazer Mather,	Seth Bird.

Preparations were being actively made for the great conflict; a few of our profession still sympathized with the mother country, but the great majority of them, as well as of the people, were for independence and liberty. As is usual in all like contentions, the domestic foes were the most bitterly hated of

all. Some of the physicians hastened to leave the country, and a few still remained in Canada or Nova Scotia after peace was declared.

INOCULATION FOR SMALL-POX.

The history of Inoculation for Small-Pox in this country has been so often written that only brief mention of it will be made. Cotton Mather in 1721 had read the account of it as published in the Philosophical Transactions of the London Society, and was much impressed in its favor. He endeavored to enlist the support of the Boston physicians, but with the one exception of Dr. Zabdiel Boylston, they opposed it violently; the clergy, to their credit, were strongly in its favor. Dr. Boylston having inoculated his only son and two negro servants, who passed through the disease successfully, the practice increased, and in a few years time a large number were inoculated, of whom but a few died. The success was so great that Dr. Douglass, who had been the chief opponent, was convinced of its utility, and with the profession generally, came to its support.

Dr. Benjamin Gale, of Killingworth, published a pamphlet concerning it in 1765, and favored a preparatory course of mercury, as rendering the inoculation less fatal, so that in a short time, of three thousand who were inoculated only eight died. There was considerable opposition among the people to the erection of pest-houses and the practice of inoculation, from fear concerning the dissemination of the disease, but these gradually subsided, and the selectmen were in many towns authorized to give liberty for the erection of pest-houses, and for proper physicians to inoculate such as were willing to come to them.

The hostile feeling among the inhabitants is well shown by Miss Caulkins, in her history of Norwich. In 1760, the town considered the subject in this form: "will the town approve of Dr. Elisha Lord's proceeding to inoculate for the small-pox, under any regulations whatever?" and decided against it. "In 1773, Dr. Phillip Turner and Dr. Jonathan Loomis opened a hospital for inoculation on an island in the Sound, off Stonington, but the inhabitants on the mainland strenuously opposing the system" the project was abandoned, and the next year "Dr.

Loomis was arrested and committed to prison on the charge of having communicated the infection of small-pox by inoculation to two persons in Stonington." Dr. Elisha Tracy was presented by the grand jury as guilty of a cognizable offense, in communicating the small-pox to certain persons by inoculation, and held to answer for the same before the county court in a bond of £60." The efforts of Dr. Elihu Marvin and Dr. Philemon Tracy to open a hospital were also negatived, and it was not until October 8, 1795, that the town gave permission to open a hospital for inoculation in the succeeding April.

The following from the History of Litchfield County are examples of like action in other towns. The opposition which at first was quite violent, gradually subsided, and the practice of inoculation became very general. This loathsome and serious disease was so much dreaded, that the communities became quite willing to accept the slight danger attending inoculation, rather than run the risk of taking it in the natural way. I am not sure but going to the pest-house was regarded as somewhat of a holiday, or picnic, as we now might term it, very like that of the annual encampment of the soldiers at Niantic. An old inhabitant who had been inoculated told me that it was regarded much in this light by those of his town, East Haven. The greatest hardship which was complained of was the denial "of salt in their porridge."

When the practice of vaccination came into vogue, inoculation was properly forbidden by law. Though the protection thus afforded may not be quite as perfect as inoculation, yet upon the whole it is much to be preferred, especially as the danger of communicating small-pox is wholly avoided. Whatever dangers there were from the human lymph, or crusts, are now escaped by the use of the bovine lymph, and no reasonable objection can be made to it. Those who say, and I have heard many say it, that "they would rather have the small pox than be vaccinated," are simple bodies who do not know what they are talking about. A positive trial of the disease would give them a grand opportunity for a change of opinion.

FROM HISTORY OF LITCHFIELD COUNTY.

Extracts from the Town Records of Warren :

1791, April 11. "*Voted*, to give liberty to Doc^t Syrus Berry to set up anoculation under the Direction of the Authority and Selectmen of this town of Warren."

1792, Dec. 3. "*Voted*, to give Dr. Heman N. Comstock liberty to set up a pest House where and under the Direction of the Selectmen."

"*Voted*, to give James Robins fourteen dollars in order to pay Dr. Crouse, and then voted to Reconsider said vote, and then Voted to Leave it with the Selectmen to settle the matter at DiscreSSION."

1773, May 6. "*Voted*, to discontinue the Small pox Till further orders."

1798, March 12. "*Voted*, to give liberty to the Physicians of this Town to inoculate for the Small Pox to any of the Inhabitants that may wish to take it, under the Direction of the Authority and Selectmen, for one year from this date. Also the Inhabitants of any other Town, who may obtain permission therefor from the Selectmen."

April 9. "*Voted*, to discontinue the Small Pox in this Town from this date."

It is not often that the small-pox, or any serious epidemic disease, is attempted to be dismissed in this summary way.

New Milford.

1760, Dec. 8. "*Voted*, That if the authority and Selectmen think proper, they may have liberty to set up inoculation for the small-pox."

1761, Dec. 14. "*Voted*, That those that went into the inoculation for the small pox shall pay their equal proportion of charge to the owner of the house, and the town."

1778, Feb. 10. "*Voted*, Inoculation for the small pox may be carried on in T. until March 20 next under direction of selectmen ; and that no person be admitted to have the small pox except those persons who are exposed to be drafted, and serve in the army, and some few families who may be exposed to the infection by keeping tavern."

Public notice was often given by advertisements like the following :

INOCULATION.

The Hospital in New Milford, will be opened for the reception of patients, on the first day of September next, when inoculation for the small pox will be continued through the fall, winter, and spring months, by

LEMUEL THOMAS.

NEW MILFORD, July 23, 1792.

Thacher, in his Military Journal, says, " May, 1776, I was inoculated by my friend, Dr. John Homans, and have passed through the disease in the most favorable manner." And again, 1781, April, "All the soldiers, with the women and children, who have not had the small pox, are now under inoculation. The old practice of previous preparation by a course of mercury and low diet, has not been adopted on this occasion; a single dose of jalap and calomel, or of the extract of butternut, *Juglans cinerea*, is in general administered previous to the appearance of the symptoms. . . . Many of our patients were improper subjects for the disease, but we were under the necessity of inoculating all, without exception, whatever might be their condition as to health. Of five hundred who have been inoculated, four only have died, but in other instances the proportion of deaths is much more considerable."

ABOUT REMEDIES.

I think the common impression is, that the old physicians employed greatly the articles or compounds found in the old pharmacopœias or dispensaries, some of which were exceedingly disgusting in their nature. Though these offensive ones were printed very generally in the books of the time, I think they were not often prescribed. A careful examination of the account books of Jasper Gunn, and of Gershom Bulkeley, and of Dr. Watrous still later, does not show one prescription which is of this character. They charge to their patients potions, elixirs, electuaries, infusions, etc., the component parts of which are not mentioned, but which I have no reason to suppose contained anything like wood lice, baked toads, or powder of earth worms, or vipers' flesh. These things are to be found in the books, but were a remnant of earlier medicine, mentioned historically, with full directions for their composition and use. This is true of the pharmacopœias and

dispensatories of our day, which contain numberless articles, both vegetable and mineral, of which no physician thinks, of making practical use. It is well that we should have a description, and the probable virtues, of every plant which grows, and of every mineral which is dug out of the earth, and of every animal supposed to be curative; it is a part of human knowledge not to be discarded, even if it is not much improved. But he would be a foolish man who used them all, or attempted to use them all (or a very large number of them), in his practice. A few remedies, and their various combinations, prove amply sufficient for most practitioners. It has been said again and again, by old and modern physicians, that if they were required to use but four of the most valuable remedies, these would be opium, calomel, antimony, and bark. One of these, antimony, is not now in extensive use, but it may come in fashion again, and be as popular as it was among the Italians fifty years ago, when it was lauded as a contra stimulant, in doses of twenty or thirty grains. The modern doctor would consider his reputation to be in peril, if he treated his patients in this way; he is too much afraid of a fraction of a grain of the tartrate of antimony and potassa, to listen to what was done with it in ages past. Perhaps when our successors meet a hundred years hence on an occasion like this, and it falls to the lot of some one of them to review the state of medicine a hundred years before, he will express his astonishment at the large doses of quinine which are now in use, and will express his astonishment also that, aside from a few remedies long prescribed, we relied so much upon the products of coal oil. I have lost no faith in the efficacy of remedies in relieving or curing disease, but, as everyone knows, there are remedies beside mere drugs, and the intelligent physician finds this out after a few years of experience if he did not know it when he commenced.

Dr. Oliver W. Holmes was favored with an examination of a manuscript of Governor John Winthrop of Connecticut, which contains an account of the cases treated by him, generally in Hartford, extending from 1657 to 1669. He employed such simples as elecampane, elder, wormwood, anise,—minerals as nitre, antimony, iron, sulphur, calomel,—rhubarb, guaiacum, anodynes in the form of mithridate, containing poppy juice, a harmless powder of coral, amber, and *millepedes*. Measles were

quite common, and probably included scarlatina, as the distinction then was not closely made; and fever and ague, "but the common infirmities of both sexes and of all ages, seem to have come under his healing hand."

An article which Winthrop termed *rubila*, was frequently prescribed by him; the composition of it was a secret in the family, very carefully kept, and was, I suppose, used by many physicians of the time, who could get it. Gershom Bulkeley made not unfrequent use of it, as I shall show. Whether he procured it of Winthrop, or made it himself, is not known; but as he had an extensive chemical knowledge, and a laboratory well stocked, and a very inquiring turn of mind, it is reasonable to suppose that he made frequent experiments to discover its composition. The active ingredient was antimony, and when the patient had this in his stomach he knew that something was there.

Dr. Holmes' remarks are so interesting and valuable that the two paragraphs relating to it are copied.

"What was the medicine which so frequently occurs in the printed letters, under the name of '*rubila*'?" It is evidently a secret remedy, and so far as I know, has not yet been made out. I had almost given it up in despair, when I found what appears to be a key to the mystery. In the vast multitude of prescriptions contained in the manuscripts, most of them written in symbols, I find one, which I thus interpret —

"Four grains of (diaphoretic) antimony, with twenty grains of nitre, with a little salt of tin, *making rubila*. Perhaps something was added to redden the powder, as he constantly speaks of '*rubifying*' or '*viridating*' his prescriptions, a very common practice of prescribers, when their powders look a little too much like plain salt or sugar."

Cotton Mather, in his essay on the "Common Maladies of Mankind," in one of his Capsules, speaking of the animalcular origin of disease and remedies for this supposed source of disease, says, "Mercury we know thee; But we are afraid thou wilt kill us too, if we employ thee to kill them that kill us." A like consideration might occur to us, when we learn of some of the remedies which are suggested for the destruction of germs which persist in getting into the human body. The man who set fire to his barn in order to destroy the rats, was not altogether wise.

Let us look into the ledger of Gershom Bulkeley; the times are mostly from 1680 to 1684. He charges Saml. Wyllis of Hartford, "ung. albi 3j cum olla 1sh. 3." Joshua Stodder, [Stoddart,] "Rub. gr. 6, 2 — 8d." To Mr. Peter Bulkeley, "To Rubila 3ss. 6s."* Joseph Hills, "To Cor. rubi 8ss. 8d. Bezoard, 4 doses pro infante recens nato, 16d." Theophilus Sherman, "phlebot. sub lingua, 12d." John Durrant, "Bezoard, pro infante unius anni spasmod, 6d." Sergt. William Warner, "potio sennae c hellebor, nigr., 2s." Mr. Will. Southmayd, Middleton, "To journey to Beset in night, 1s., med. 7s." Moses Crafts, Wethersfield, 1684, March 12, "To journey from Hatfield to Deerfield, 4s." John Clarke. journey to Beset, 8s., and John Hamblin for same, 10s. Jonathan Colefaxe, "to phlebot, 1s. 6d." Joseph Gilbert, Wethersfield, "to excising pobypi cum Turgenda, 2s." Thos. Ffitch, "vis 6d., phlebot sub lingua, 12d." Ebenezer Damon, [Deming ?] "Elix. laud. pro odontalg, 1s." Rubila is generally charged at two pence per gr.

He charges William Randall, 1682, June 5, "To dressing his wives wound, 0 — 0 — 7," and then follows this in brackets, ["Mond., June 21, the Indian that wounded her was tryed and condemned, and June 28 was hanged — she died ye day after she was wounded."] This was a very quick administration of justice, quite uncommon in these parts at present, but familiar enough in all the new settlements, beginning at the Atlantic and not yet lost as you approach the Pacific. As I was desirous to ascertain if there was an official record of this affair, I enquired of Mr. Charles J. Hoadly, who sent me the following: "I find the record of the special court of assistants, June 21, 1682, at which Allumcheyce, Indian, was tried for the murder of Elizabeth, wife of William Randall, by stabbing her in the back. At the end of the record is the memorandum that he

* This ledger has inscribed on the first page, in very handsome writing, "Peter Bulkeley His Book December 10 Anno Domini 1681." Presumably he was the son of Dr. Bulkeley, who had a son of this name, and may be supposed to have been a merchant, for the charges for the above year, by the same hand, are for sugar, molass.s. salt, and some few dry goods. After this year the book was used by Dr. Bulkeley for his medical accounts, and his writing is very different indeed; it is also used as a record for various memoranda. There would seem to be no reason why his son Peter should have purchased such an amount of rubila unless he had intended it for retailing.

Dr. Bulkeley, however, had a brother, named Peter, who was practicing medicine in Fairfield, and it may have been intended for him.

was hanged June 28. I have not found any evidence or papers connected with the case, apart from the record." Though Mr. Bulkeley was a lawyer as well as a physician, there is no evidence that he appeared for the defendant, or that he moved for a postponement, or desired another trial.

It is interesting to note the prices for labor and materials, at the time, and so venture to quote further the credits which he gives as payment for his services. Enoch Bucke is credited, "1681, Nov. 21, 0 — 2 — 0, for one days work at daubing ye house." Peter Blin, "for 2 dozen of Trenchers, 0 — 2 — 0." John Case of Simsbury, "for 3 barreles of Tar at 16s. per Barrel, 2 — 8 — 0." Robert Francis, "8lb. Butter at 6d. pr lb., 4s." William Taylor, "1 days work mending shoes, 2s. — for spinning one pound of Cotton, 4s." John Coltman, [Coleman,] "Side of Porke, 40½ lbs: @ 3d., 10s. — 1½. 9 lbs. mutton, 3s., 4 qts. of honey at 2s. 6d., 0 — 12 — 6." Thomas West, "spinning 1½ lb. of Wool, 3s." Sergt. Buckley, 1682, Sept. 19, "25 lb. venison, 4s. 2d., 2 deer skins, 11s." He pays. 1683, March 30, for "a Barrel of Tar, 15s."—"1682, Oct. 2, £1.5 — 0, for a Castor Hat."

In reciting in his accounts the remedies which were prescribed, he makes frequent use of those symbols which were applied to Mercury, Nitre, Sal Ammoniae, Iron, etc.

In revising this long paper I recognize how much has been omitted which further research may bring to light. A careful examination of the histories of towns which have been published, and of early town records yet unpublished, will bring to notice the names of many physicians worthy of our special consideration. While but a few had received a collegiate education, the only medical instruction was obtained from the nearest practitioner. They profited by that best of clinical observation, observation at the bedside of the patient, and in the patient's own house. As the students were put upon a course of study they also were taken about the town, visiting in company with the doctor, sharing in the long calls which he made, and listening to his oft-repeated stories and jokes. They thus had opportunity for noticing how a physician should conduct himself in his intercourse with his patients, for this is a matter

which can never be learned completely in a hospital or dispensary or medical clinic. The entering into a household, the conduct therein, and the rare knowledge of leaving when nothing more is to be said or done, is an art to be learned nowhere else but in a household, and among the folk therein gathered. The fortune of many a brilliant man has been marred by his ignorance of a pleasant entrance, and by his want of a graceful departure. It is the gilded pill and the pleasant draught which tickles the palates of the multitude; and the gracious manner, which leaves a kind remembrance behind.

Undoubtedly, as a rule, our fathers were not as well educated or as gracious in their action as the children of to-day. Though the politeness of some of them was well-marked, yet a rudeness of manner and speech was characteristic of too many. Often commenced in imitation of an older practitioner, it was adopted as a part of one's own conduct, until it became fixed as a habit; and I am not sure but that it found a response in the hearts of many, and was regarded as an evidence of smartness, and perhaps of knowledge. The social customs too, of the early days, led to a free and easy intercourse between the doctor and his friends. His coming to the house was an event worthy of consideration, and he was made the recipient of a hospitality which was sometimes inconvenient, if not burdensome. The very general use of alcoholic stimulants by all classes of people, and the expectation that he would partake of a "refresher," before seeing the patient, left him before night, a sadder, if not a wiser man. Some, seeing how dangerous was such a course, preserved their self-respect and dignity by refraining altogether, and by pleasant address secured the respect of the family. The doctor was usually a familiar in the household, and while he was the subject of criticism and gossip, was yet retained in service longer than at present. The opportunity for change was not convenient, and then, too, there was, I suspect, a stronger bond of union between patient and physician than generally prevails at this day; for the intercourse which was begun with the father was continued with the children, until death broke the bond which had united them so long.

The physician who was in demand generally traveled long distances, and, consequently, was much away from home. Starting early in the morning, a tedious ride was before him,

always on horseback in the early days, and it was quite unknown when he would return. The regular office hours of a modern doctor were altogether beyond his knowledge, and probably beyond his belief. He knew nothing of ease or leisure, but plodded on in his daily calling, his round of duty as tiresome and endless as that of the farmers' wives all over the country. He expected to find his dinner where time had conveniently placed him. I trust that such an assurance of familiarity did not come to many of them, as it did to one of whom it was reported, that whenever he entered a house at the usual dinner hour, his first visit was to the kitchen, where he lifted the lid from the pot.

The doctor of the old time was, in the strictest sense, a general practitioner; aside from the midwives, there was no one beside himself to give aid in sickness. The shop of the apothecary came in at a later day, and there was no dispenser of drugs but himself. He had his collection, greater or less, of simples, vegetable or chemical, and a few compounds, of his own design, or copied from books, or more likely handed down to him by his preceptor, or a physician of former generations. Not unfrequently his own prescriptions were designated as "my pill," or "my syrup," "my electuary," etc. Those designations are to be found in his ledgers, together with the remedies administered at each visit. An examination of these records shows the remedies generally employed, but of the combinations we are ignorant. There were certain, however, which were long in use, from the days of the earliest physician, to those of Dr. Watrous, of which we are acquainted. The *pil. cochiæ*, a purgative in frequent use, is in its active ingredients composed of aloes and colocynth; senna, rhubarb, mercury, antimony, sulphur, and nitre, were in common use. Active pharmaceutical agents were by no means neglected, but a multitude of feeble remedies were often made into a compound, the efficacy of which was of little or no value. The nauseous or disgusting remedies were, I think, mostly confined to the seventeenth century.

The saddlebags of leather held precious drugs, which were carried about from day to day. When borne into the house, the opening must have excited the wonder of the children as much as the tin trunk of the peddler at a later period. A store

of powders, pills, and tinctures, syrups, and electuaries, compounds under names not now known by us, roots and leaves, enabled him to prescribe freely, and probably effectually; he carried with him a little of everything which was needed for immediate use. The charge for visits was usually small, being ordinarily one shilling, or even less, with an increase for distance; but a large sum, as now appears, for medicines. While the books of Jasper Gunn in 1656 show charges of three shillings for three visits, and two shillings for four "journeys," the advice seems to have been considered of small account. Like the quacks of our time "there is no charge for consultation, but if you persist in using my medicine, you shall have it for cost," — and the cost is dreadful.

While I say that the doctors had no competitors except the midwives, it ought to be corrected somewhat; for in many places there were convenient men who not unfrequently extracted teeth, and some who used the lancet in bleeding. Judging from the account books of Jasper Gunn, and those of Gershom Bulkeley, it does not appear that bleeding was in great favor in the seventeenth century. It was in the eighteenth that the followers of Doctor Sangrado blossomed out in full glory. The practice became well established among the faculty and was popular. Every physician was expected to be an expert bleeder, and if practice gives perfection, then he was expert. The usual fee was one shilling, and so remained for a long time, even to the formation of this Society. What the layman charged for his use of the turnkey or the lancet is unknown, probably only a sixpence. In the latter part of the century, in the eastern part of the State, there was a highly educated man, who had studied in Europe, who offered his services to the public. He had learned in England the nice distinctions established there between a physician and a surgeon. Being called to a patient where he thought bleeding necessary, he directed a surgeon to be sent for, who should perform the operation. The friends believed the prescription was good, but thought the doctor was not. To be a doctor and not willing or able to bleed, did not strike the New England mind favorably, and he soon went his way.

I have said that the people were in favor of bleeding. It was a common idea that it was necessary every spring, and so

the patient, if he can be called a patient, went to the doctor and was bled, and was supposed to have felt better after it. There might have been, and probably was, no specific disease which rendered it necessary, but the plan had got into favor, like our dosing with spring medicines, or our spending weeks at fashionable watering places, whether we use or need the waters or not. The mania for the use of drugs is so impressed on the minds of some people that they resort to them, as men do to food to appease their hunger. It was a common saying among druggists when homeopathy made its appearance among us forty years ago, that their heaviest sales were, and had been, among the implicit believers in that doctrine. But our brethren of that faith now, as near as I can judge, fully rival us in their doses, and sometimes have gone further than seemed to be warranted in simple cases.

It is a question worth consideration, and is being discussed more and more, whether the profession has not lost the use of an efficient agent in abandoning the use of the lancet. Without doubt the voice of the people, and the assent of medical men to the same, is against blood-letting. Both are fickle enough to require us to ask if the prophets prophesy truly; the voice of God is to be respected when it is the voice of God. The tirade against venesection, like the tirade against mercurials, has been improved by those who not only wished to raise themselves into popular favor, but who aimed to put others down. The vegetable doctors sixty years since, in their clamor against minerals, were acting over again the farce which had been played by the Galenists and the Chymists many years before.

I am aware how unreliable mere opinions or impressions are, and yet they are worth consideration. They are not as reliable as figures, yet figures can be made to tell any story; it has been said that statistics are very unreliable, which is not true if the statistics have been truthfully compiled and properly arranged. But impressions are worth something, and the impression left upon my mind is this, that blood-letting is a powerful and useful agent, powerful for good, like other efficient agents, powerful for evil like others also. In the treatment of pneumonias and some other acute diseases, it was more prompt in relieving the inflammation, giving ease to the patient, and putting him in a fair way of recovery, than the agents now in com-

mon use. Many a time have I known them to say, even before the vein had been closed, "Why, doctor, now I can breathe," and expanding the lungs, would take several respirations to show what could be done. Not unfrequently it was considered necessary to repeat it, and it was not supposed that the patient was a loser thereby. Now, I do not propose to raise the question whether pneumonia is, or is not, a constitutional disease, or whether the diathesis of disease itself has changed. Either side of the question will find able and ardent advocates. But I do say to you, gentlemen, when a useful agent in combating disease is found in your hands, or in the hands of any one, no matter who he may be, it is your duty to recognize it, and make use of it, unless you have something better to offer in its place. And so it may be said of blood-letting, that it should not be discarded because it has been abused, or because it has not always been successful. The courage of some audacious men will rise in the years to come, and venturing upon this now almost forgotten lancet, will win new honors in this new field of operations. The profession will yield to the force of circumstances and declare that there has been a change in the diathesis of disease. It is not only possible, but probable, that your sons or your grandsons may yet daily carry a lancet in their vest-pockets, as we few who survive did more than fifty years ago; and if you ask us why we have not continued its use, it may be replied that it is very easy to ask questions.

It is time that this paper was brought to a close. It has been my endeavor to give a sketch of the medical men who, before the formation of the Connecticut Medical Society, were here in practice. Some have been overlooked, no doubt, and of some there is no recollection remaining, or record to be found. Many a man sleeps unhonored who is worthy of honor; the remembrance of many a physician, perhaps of a majority, remains only with those who were personally acquainted with him. Whatever of good service he has done will meet its reward hereafter. We need not worry about the place we shall hold in the world's history, for these places are held but by a few, and those not always the most worthy. Let us, therefore, use wisely the talents which are given us, and see to it that through us no reproach shall fall upon our noble profession.

It is idle to speculate upon the changes which may take

place, or what will be the position of medical men, when they come up here to celebrate another Centennial. The horoscope can be cast with no certainty, but we trust that industry, honor, intelligence, and true loyalty will ever hold them fast. A unity of all men of learning and character, in the profession of medicine, may be an accomplished fact before that time. With these guarantees, a difference in opinion about theories of disease, or the use or dose of particular remedies, ought not to keep them far apart. The "unity" of the numerous religious bodies which is now being prayed for, may come to us even before it comes to them. But the whole field of study must be opened and pursued. No subject is ever thoroughly discussed which is observed from only one point of view; a part, be it remembered, is never as great as the whole. A scientific investigation ought to be a truthful investigation, made in a temperate spirit and in judicial calmness. It is possible, if this were done, that there would not arise another Pilate to ask the question, "What is Truth?" and the principles of our Art might be found to be as unchangeable and eternal as the principles of Law.

If there had not been so much written concerning the Medical History of Connecticut for some years just preceding the establishment of this Society, I should feel bound to consider it with more minuteness than is now proposed. The very excellent account of the origin of the Connecticut Medical Society, by Dr. Henry Bronson of New Haven, which was published in our Proceedings for 1873, forbids on my part any further examination. The addresses, also, of Dr. George Sumner in 1851, of Dr. Rufus Blakeman in 1853, of Dr. Ashbel Woodward in 1862, and of Dr. Charles F. Sumner in 1871, all relating to the early medical men of the colony, contain such a mass of matter, so carefully gathered and considered, that little has been left for me to attempt. So thoroughly has the field been plowed and harrowed and grubbed, that I have felt somewhat straightened in the matter which should be given you to-day. There seemed to be left me only a somewhat more minute statement of historical facts, a number of biographical sketches of some of the pioneers and worthies of our profession, with allusions and considerations proper to the general subject. I hope it may interest the brethren somewhat, but it falls far

short of my desires or present ability to perform. The very full "Account of the Medical Profession in New Haven," by Dr. Francis Bacon, so learnedly and eloquently told, also renders less necessary any extended labor on my part.

The first attempt at any organized effort to establish a Medical Society in Connecticut was made by physicians in New London county in 1763. The physicians of Litchfield county formed a society in 1766, and those of New Haven county in 1784. Various were the struggles and tireless were the efforts to obtain a charter for a State organization. Again and again did the General Assembly refuse to grant their requests; in 1787 many of the physicians had become discouraged at the repeated failures. Dr. Jeremiah West of Tolland wrote, "The eastern counties have become very remiss, and fallen into a lethargy." The fear of creating a monopoly appears to have been the principal reason for not granting a charter.

But all were not discouraged. The physicians of New Haven county increased their efforts, and stimulated their brethren throughout the State. So strong were their arguments and so strenuous were their exertions that success became possible, and the Medical Society of Connecticut was incorporated in 1792. We give to New Haven county the credit of bringing this matter to a close. Although valuable assistance was received from other parts of the State, yet here was concentrated the moving spirit which enlivened and governed all. And to this ancient town we come to-day to celebrate this event of a hundred years since, with honor and gratitude in our hearts, and with admiration and esteem for the worthy physicians and learned men who have lived here and have spent their lives in education and in help to their fellows. Long may this city continue to be so active in its industries, so earnest in its teachings, so persevering in all its efforts for good.

A D D E N D A .

It was my intention when this paper was commenced, to give a sketch of John Winthrop and his practice, but other material has crowded him out, and so will let him alone. *Governor John Winthrop of Connecticut, as a Physician*, is worthy of a paper by himself, for he was learned and skillful, and took pleasure in obliging his friends, of which this is an example. Cotton Mather writes to John Winthrop, New London, Oct. 15, 1716 :

“There is a famous plant, in your vicinity at Lebanon, known by the name of *Culcer's Root* — famous for the cure of Consumptions. My Eldest Daughter has been for above Six months, Languishing, in what appears to us a consumption, which our Physicians know not what to make of.” And then desires that some of the root may be procured for him from Mr. Culver, to whom he also sent a letter.

John Winthrop answers this enquiry Nov. 5, 1716, New London: “Immediately upon y^e reception of yo^r letter, I dispatch't my serv^t to Lebanon (25 miles) wth y^e [request] you sent, and wth some difficulty have procured from y^e old Cynick of y^e village the now inclosed remedy for *Tabes Marasmus vel Atrophia*. This *inurbanus austerus et acidus rusticus* holds it as a great secret, & had at first y^e knowledge of this vegetable from an European, who transiently passing that way thro' y^e country was necessitated to shelter himself anight und^r the thacht roof of his cottage, & in return made him acquainted wth y^e virtues & use. The *radix Colveriana*, must be washt & dryed by y^e fire, and then pulverized & mixt up wth honey into pills about the bigness of a hazel-nut, & taken in a morning, fasting, beginning with 2 and so on, adding one every morning, until it begins to operate; and then rest 4 days, and then repeat as above, untill you find benefit.”*

Culver's Root, *Leptandra Virginica*, is said to act violently as a cathartic, and sometimes as an emetic, and there is no reason to suppose that it has any usefulness in the treatment of consumption. Very likely it hastened the death of the poor girl, as she died the next month.

* Winthrop Papers, Part vi.

48 WEST 36TH ST., NEW YORK, N. Y.

November 11th, 1890.

GURDON W. RUSSELL, M. D.:

Dear Doctor—I cheerfully comply with your request to send a copy of the letter of the Rev. Joseph Eliot of Guilford, Conn., to Gov. Winthrop of New London. Any use you can make of it will give me pleasure, without regard to the proposed acknowledgments. Miss Sperry misunderstood me in regard to the name of the patient, as you will see, but this does not detract from the interest of the communication.

Much honored

Y^e man John Megs his wife hath a gentle beginning of fits of flatus hypocondriacus y^t stir upon greife yet without violence for the present, in fears yy may increase help is desired in the use of means if you shal please to take notice of the case.

S^r

I am humbly yours to serve

JOSEPH ELIOT.

Guil: 20-1-73.

The document has an additional interest as Gov. Winthrop's indorsement, "Mr. Joseph Eliot about J. Meggs his wife rec. Nov. 24," is upon the back of it. The note is written in small characters and does not take as much space as that covered by my copy.

What better description of hysteria can be found as we see it, than that conveyed in the words, "a gentle beginning of fits of flatus hypocondriacus y^t stir upon greife yet without violence for the present"? How useful the Governor was in giving his advice to help a hysterical woman! How popular with the fair sex would a Connecticut Governor now be, if he should please to take notice of them when troubled, as poor Mrs. Meigs was.

Mr. Eliot is thus spoken of by the Rev. Thomas Ruggles, who wrote a few years after his death, "Mr. Joseph Eliot was for many years the conspicuous minister of Guilford, whose great abilities as a divine, a politician, and a physician, were justly admired, not only among his own people but throughout the colony, where his praises are in the churches." He died at the comparatively early age of 56. Had his years been as many as those of his father, John, "Apostle to the Indians," or of his son Jared, like them, he would have had a prominent place in our historical works.

I have many facts in regard to his son Jared, above-mentioned, mentioned by Thacher as "unquestionably the first physician of his day in Connecticut," but these may not come within the scope of your paper. His publications, now impossible to assemble, but which may

be consulted, one in one library, and one in another, would afford material for an instructive and entertaining communication.

The Connecticut Medical Society must take great pride in celebrating a century of its existence. Every son of "the land of steady habits," if a member of the medical profession, will rejoice in its success, and make thereto all possible contributions.

Yours very truly,

ELLSWORTH ELIOT.

Not unfrequent applications similar to the following were made to the General Assembly for relief. These were supposed to be worthy persons in need of assistance, and were commended to those charitably inclined:

"Upon the application of Sampson Haughton of New London, for a contribution to be made in the congregations of New London and Groton, for the relief of a daughter of his who has been for 2 years under the hands of surgeons, he being not able to procure money otherwise for the payment of her cure—leave is hereby granted—for such contribution to be made in the said congregations, for the use above mentioned."—*Col. Rec.*, 1710, p. 194.

"At a Town Meeting, May 21th, 1688:

"Whereas, Mr. John Hull of Darbee, hath Thomas Harris of o' town in his custody for a cure of sum lameness in said Harris his legg, for said Hull's incouragement in the cure, the towne have granted him tenn pounds to bee payd out of the next town rate, & tenn pounds more to be added when he hath made a cure, besides what hee hatle already reseaved of the town by a former agreement about the said lad."

"At a Town Meeting held in Hartford, December 21, 1692:

"The Town also by their vote have given to Isaac Cakebread fifty shillings, provided it be improved in paying for his board at Windsor, while he is endeavouring to get a cure from Mr. Mather."

1759, March. "Upon the memorial of Peter Wooster of Darby, shewing to this Assembly that the memorialist being an ensign in Col. Whiting's regiment in the service of this Colony for the last campaign, & being in the engagement at Wood Creek on the 8th of August last, had the misfortune to have six musket balls shot thro' him, his left elbow and wrist and hand broke to pieces by the blows of a hatchet, and had nine blows on his head with a hatchet, till he was killed as the enemy supposed, in which they scalped and stripped him and left him on the ground, but being taken up by his friends, is recovered to a considerable degree of health, but that his arms are so disabled as to be

almost useless in the common labours of life," &c. The Treasurer was directed to pay him the sum of forty pounds.—*Col. Records, Vol. XI, p. 241.*

I am indebted to Miss Perry for the four following letters addressed to Rev. Joseph Perry of East Windsor:

“Rev^d Sir, in y^e Rickets y^e Child is always Costive; or Laxative, the best Correction I have ever found, is a Syrup made of Black Cherry’s, thus—Take of Cherry’s (dry^d ones are as good as any) & put them into a vessel with water, Set y^e vessel near a fire & let y^e fire be Scalding hot; Then take y^e Cherry’s into a thin cloth, & squeeze them into y^e vesel & sweeten Liquor with Melasses, give 2 spoonsful of this 2 or 3 times in a day. ——— if you dip your Child, Do it in this manner; viz: naked, if in the morning, head foremost, in Cold water, Dont Dress it immediately, but let it be made warm in Cradle, & sweat at Least half an Hour moderetely: Do this 3 mornings going, & if one or both y^e feet are Cold while y^e other parts Sweat (w^{ch} is sometimes y^e Case) Let a little blood be taken out of y^e feet y^e 2^d morning & y^t will cause them to sweat afterwards, Before y^e dip y^e Child give it some Snake Root & Saffron Steeped in Rum & water, give this immediately before Diping.—

And after you have dipt the Child 3 mornings, give it several times in y^e day y^e following Syrup, made of Comfrey, Hartshorn, red roses, Hogbreak roots, Knot grass, Pettymoral roots, Sweeten y^e Syrup with Melasses, Physicians are generally fearful about Diping w^h y^e fever is hard, but ofentimes to Lower it without Diping are vain, and Experience has taught me that those fears are groundless y^t many have about Diping in Rickety Fevers. I have found in a multitude of instances y^e Diping is y^e most Effectual means to break a Rickety Fever, & finally cure it of any y^t can be taken — These directions are agreeable to wh^t I have practised for many years with Success, nor need they be varied from in order to cure the Rickets: Except in some Exemt cases — I am willing y^t you should Show this [to] any Physician whose skill you value — & take his advice.

“With compliments to Mrs. Perry I conclude

“from y^r humble servt — J. FOSTER.

“in y^e utmost hast.

“Staf^d, April 29, 1769.”

“WINDSOR, Jan^{uy} 4th, 1782.

“SIR

“I received your Letter in which you inform me of your declining state of health; — I sincerely sympathise with you and should be happy to afford you the smallest relief, — I will if possible see you

soon: at present I will suggest a few things I have in my practice found beneficial in similar cases — although from the symptoms you have, I think it highly probable you have the Stone in the Bladder yet it is possible your complaint may arise from some other cause — I would advise you to use Fomentations of Emollient Sudorific Herbs — a free use of Sow Bugs — Keep your body Sufficiently open by cool Purges or Clysters; perhaps a Clyster composed of the above Fomentations may answer as an external Fetus — a Decoction of Scouring Rushes — continue the use of Nitre and Lubricating Gums unless the Rigors should forbid the use of Nitre: The Fomentations may be of Catnip, Mallows, Mullean, & Indian Poesay or Summer Savory.

“The finger besmeared with Oyl or Lard and introduced in Ano may properly discover whether you have the Stone.—

“The foregoing are what Occurs at present. If you are desirous of Counsel and advice from the Faculty further than what you have already obtained Doct^r Turner of Norwich is the most Eminent in Complaints of your kind.—

“from your most Obedient humble servant

“CHRIST^r WOLCOTT in behalf of ALEX^r WOLCOTT.”

“BOSTON Jan^y; 2^d 1783.

“DEAR BROTHER,

“ . . . I have as I promis^d in my Last tried all in my power to get some of them Fish Bones but Cannot get them this time of the year as the Fisherman splits no fish this time of the year I Bought one Large Codfish since and send you two Bones of his Head & I have the promise of y^e Fisherman that they will save me the first they split I likewise send you Inclosed Doctor Rand’s Advice he Tells me he has Consulted two of the Ablist Physicians in Boston D^r Lloyd and one more and what he sends is the Result of their Consultation — so hoping by the next Post to hear you are Growing Better as well as your son Simeon — my wife Joyns with me in Love to you all & Remain with Great Respect Your Loving Brother

“SAM^l RIDGWAY.”

“P. S. The Fish Bones is made fine as powder & taken in Honney I suppose these two will be enough to take at once.”

“HARTFORD March 16th, 1783.

“Rev’d sir yours of the 10th & 16th Jan^y rec’d & should have answered the first had I time But the Bearer Could not wait & intended to pay you a Visit soon as I wanted to see you much. I propose to pay you a Visit to morrow or next day at farthest & shall take

the contents of Both Letters into Consideration & give you my Opinion on them & am Dear sir most respectfully

“your sincere friend & well Wisher

“WM. JEPSON.”

P. S. “Best Respects to Mrs. Perry.”

P. S. “Was very happy to rec'd yours.”

N. B. “Vig^r. No Fever Good Appetite & Digestion.”

The Rev. Benjamin L. Swan, formerly of Stratford, but now at Mendham, Morris county, New Jersey, writes,—

“My library, once abounding in old New England lore, has been so largely depleted by donations of pamphlets and books to several Collegiate and other institutions, that I can now merely regain a few names and dates connected with the early history of the medical profession in New England. . . . The few items I note here can be multiplied by not very laborious research.

“It can be shown that as a rule the clergy who served the churches of N. E. at least two generations, were educated in the medical as well as the classical knowledge of that period. The partial list of Harvard graduates given below, shows that from and after 1666, when Dr Daniel Mason graduated, that famous source of learning provided carefully trained physicians for the Colonies. Local histories, and the biographies of men in that early period, furnish ample testimony in kind.—

“Partial list of Harvard Graduates of the first and the ensuing generations, who practiced medicine.

Grad. A. D.	1666.	Mason, Daniel	b. 1649	“
	1667.	Hobert, Japhet	1647	
	1681.	Hastings, John		d. 1765
	1700.	Bradstreet, Simon	1682	
	1712.	Gardner, Andrew, was in 1748 ‘Chaplain & Chirurgeon at Fort Dummer.’		
	1719.	Bridgham — M. B.		1758
	1726.	Stedman, Jonathan	1703	1764
	1728.	Rogers, John		1782
	1730.	Richardson, Adam		1761
	1735.	Russell, William		1758
	1736.	Brown, Josiah	1709	1748
	1739.	Hale, Nathaniel	1720	1779
	1739.	Parker, Isaac	1719	1751
	1741.	Wilson, John, ‘Physician & Pastor.’	1721	1776
	1745.	Adams, Joseph	1722	1799
	1752.	Wigglesworth, Samuel, ‘Minister & Physician’	1734	1813

"In Fairfield & New Haven counties, much may yet be gleaned showing a full line of educated physicians from the founding of these Colonies. Many of the M. D.'s who were graduates of Harvard, studied medicine in the 17th, & part of the 18th centuries, with pastors who were themselves medical men. Take the following instance,—

"Nathaniel Hudson who graduated at Cambridge A.D. 1693, son of John, of New Haven, was born in 1674, & died in Stratford, May 1701, aged 27 years. His eldest sister became, in 1757, the 2^d wife of Rev. Israel Chauncey, who was pastor of Stratford church from 1666-7 till his death in 1703. (His tomb [inscriptions] & Dr Hudson's, are perfectly legible.) Dr Nath. Hudson, married Abigail Chauncey, dau. of Rev. Nathl. Chauncey of Hatfield, Mass., and niece of Rev. Israel Chauncey.

"There is reason to believe that Dr Hudson* came soon after his graduation, to Stratford to study medicine with his relative Mr. Chauncey, who was held in high repute as a physician. It is a curious circumstance, that of all of Mr. Chauncey's manuscripts during his ministry of above 40 years, there is known to exist only one sermon preached by him, in August 1677, at the burial of John Brinsmade's son Zachary — a boy who was drowned in the Housatonic river. On the back of this manuscript, is, in Mr. Chauncey's own hand writing, a prescription for fever, consisting of several ingredients still used by physicians. Of this prescription I had a copy — which is now out of my reach among my fragmentary papers. The sermon belonged to Professor William C. Fowler, (now deceased,) himself connected with the Chauncey family. He died in Durham, but I know not where his library went. . . .

"I append a skeleton list of medical men of the early periods in Stratford history, whose names I have found connected with *old* Stratford, which included the present Stratford, Bridgeport, Huntington, Trumbull, and Monroe.

Hudson, Nathaniel, M.D.	born 1674	died 1701	[Fairfield.
Hall, Isaac, M.D.	born 1630	died 1714,	son Francis of
Laborie, James, M.D.	born 1691	died 1739	
Laborie, John, M.D.	born 1723	died 1772	
Wheeler, John, M.D. from Stratfield from 1708-13.			
Tomlinson, Agur, M.D.	born 1720	died 1774	
Tomlinson, Abraham, M.D.	born 1738	died 1816	
Leavenworth, Thomas, M.D.		died 1748	
Tomlinson, William Agur, M.D.	born 1763	died 1789	
Beardsley, Ambrose, M.D.	born 1774		

"This list with time & care, might easily be extended,

"Very sincerely yours,

"BENJ. L. SWAN.

"N. E. WORDIN, M.D."

*N. Hudson is styled in Stratford Records "Dr."

I have no further knowledge of Dr. [Charles] Account, than the following, found in the Proceedings of the Governor and Council in New London, July 28, 1721.

The sheriff made return, that in obedience to a warrant from the Governor, "impower him to make search for and sieze whatsoever he might find imported into the Colony out of the piratical ship, . . . he had taken a negro boy, supposed to be about 12 or 13 years old, at Doctor Account in Say Brook," &c.

Dr. James Potter of New Fairfield has been mentioned on page 173. He was very active, flitting about the state, encouraging the brethren, and laboring to secure our charter. So curious is the Oration which he delivered at Sharon, that the title page and a part of the pamphlet which was printed, in 1781, are reproduced. It is a wonderful performance.

AN ORATION,

ON THE RISE AND PROGRESS OF PHYSIC IN AMERICA :

Pronounced before the
FIRST MEDICAL SOCIETY IN THE THIRTEEN UNITED STATES
OF AMERICA,
SINCE THEIR INDEPENDENCE.

At their Convention held at Sharon, on the last day of February, 1780.
Together with a Word of Advice to a Candidate.

Will no superior Genius snatch the Quill,
And save me, on the Brink, from writing ill.
YOUNG.

HARTFORD
PRINTED BY HUDSON AND GOODWIN.
M,DCC,LXXXI.

On the back of the title page is this.—

"SHARON, November 28, 1780.

"At a Convention holden at this Place, by the first Medical Society in the Thirteen United States of America, since their Independence.

"This society taking into consideration the advantages that may accrue to the public by the formation of a Medical Society,

"*Voted*, That the Oration pronounced by Doctor James Potter, member of said Society, on the last day of February, 1780, be published, for the encouragement of students in Physic, and Promotion of

true medical knowledge, Together with the Advice delivered to a Candidate, examined and admitted as a member of said Society at the same Convention.

“Test,

OLIVER FULLER, *Clerk.*”

This is the most grandiloquent of performances, abounding in high sounding, bombastic words, and lengthy sentences on the dignity of the profession, and the great improvements in medicine since the year 1700. The following is a specimen. Speaking of “the most powerful motives to excite you to diligence & assiduity,” he says :

“Therefore strain every nerve to the last extremity, collect all your powers into one vigorous point, & push your researches with relentless impetuosity, through physics vast and ample field ; & while you rest secure under the glorious, sacred & permanent independence of America ; while the other learned professions shine with a transcendent lustre ; while divinity is pouring from the sacred desk and diffusing its benign influences all around ; while the fame of our divines is spreading through Christendom, & their reiterated encomiums daily reverberating on America ; while the bar yields a generous crop of generous advocates for justice, & noble patrons of the distressed, the Roman eloquence being rivalled by our American Ciceroneans ; while our public seminaries of learning are making swift advances towards perfection ; that in particular in Connecticut, having for its head a gentleman born on purpose to promote literature & enlarge the bounds of science ; while the nine celestial daughters have forsaken their ancient Parnassus & Helicon for these more agreeable climes, inspiring the minds of their happy favorites with all the sublime ideas of immortality ; swelling their bosoms with all the elegance & soft feelings of poetic rapture, binding their brows with chaplets of new blown-roses, their temples with unfading garlands ; while the American arms shine, with astonishing brilliancy, on gazing, on wondering nations ; while the intrepidity & heroism of our fearless sons of Mars, strike the British tyrant & all his despotic ministers with inexpressible consternation ; while the great the unconquerable Washington, stands without a rival, on this terraqueous ball ; being feared, revered & adored by surrounding empires : While the godlike deeds of our patriots are swelling the volume of fame, & their praises sounding in pleasing, in loudest accents from every tongue ; while the names Randolph, Hancock, Laurens, Jay & Huntington, give all the enticing, enchanting charms to honor ; & bespangle, beautify & decorate the wings of fame ; had our language sufficient strength, I should now hold up, in equal scales, the characters of the great American Minister & Philosopher the learned Dr Franklin & that of his Excellency the judicious & indefatigable Governor Trumbull.” pp. 11, 12.

And thus he closes his oration :

“From what you have heard you see the amazing disparity between the former & the present days of physic ; could the ancients boast of

a Galen, an Hypocrates, or even an Esculapius ; did some of the late moderns pride themselves in a Sydenham, Loob & Boerhave ; can Europe at the present day, triumph in a Pringle, Cadogan & Tissot, you may now confront them with this Medical Society. No more shall you hear the illiterate jargon of deluding medicators, nor feel the unhappy effects of enterprising imposters. Let each of your tongues in harmonious accents chaunt forth the praises of medicine, & may the overflowing of divine goodness which are so conspicuous in the healing art be acknowledged by you all." p. 14.

Then follows a little more than a page of Advice to a Candidate, commencing : " I have a word to say to you who have now received a license, & are about to enter on the Practice of the healing Art,"—etc.

Everything relating to the Society of historical or local interest has been copied.

THE CONNECTICUT MEDICAL SOCIETY—
A HISTORICAL SKETCH OF
ITS FIRST CENTURY.

BY FRANCIS BACON, M.D.,—NEW HAVEN.

The task which has been assigned to me, of offering to you a brief history of the Connecticut Medical Society, is an easier and plainer one than that devolved upon another member of this body and to the performance of which, with his characteristic diligence, fidelity and gracefulness, you listened yesterday.

My subject covers a period of time less than his by more than half a century, while its documentary materials are perhaps more copious and certainly more accessible. But however recondite and laborious his researches may have been, you will bear witness with me that, leading him into company at once heroic and quaintly picturesque, and through a period the more interesting for its remoteness, they have been rewarded as mine cannot be, by the delight of discovering and narrating a wealth of unfamiliar facts and entertaining incidents, while I must crave your patience during a recital drawn from familiar sources within reach of every hand, and which have already been used with such skill and thoroughness by several other workers as almost to forbid further attempts in the same field. Not to everyone is given the skill and the patience to dredge the depths of Dozmere Pool, nor the luck to bring up the long-lost Excalibur for the edification of the student and the rapture of the virtuoso. Let us congratulate ourselves that for this once the quest and the retrieval fell to hands so apt and so faithful as those of our friend and associate, Dr. Russell.

For myself let me confess candidly and without reserve

that when I first began, in compliance with the appointment of the Society, to look through the records of its early years, meager and colorless in the extreme as they are—for the modern reporter, that combination of phonograph and photographic plate and type-writer, had not been born when these faded and time-stained pages were written—I felt that I should find little there to reward my search or to interest you. But the more I have read the lines and between the lines of these records, the more clearly have I seen that they tell a story of high-minded and persevering altruism and of honorable achievement in which we as legitimate and lineal heirs may take a reasonable pride.

We shall not stray from our subject if we pause a moment to remind ourselves of the social conditions of Connecticut at the time of the foundation of this Society.

The population of Connecticut, as given in the census of 1790, was in round numbers two hundred and thirty-eight thousand as against our latest enumeration of nearly seven hundred and fifty thousand. So evenly were these two hundred and thirty-eight thousand distributed over the territory, so little did their pursuits condense them into close neighborhoods, that New Haven and Hartford, the only municipalities in the State calling themselves cities, had respectively about three thousand and four thousand people, while the least of the towns then organized perhaps equalled in population the least of those of the present day.

Almost every man was a tiller of the soil and almost every tiller of the soil was ready at need to turn his hand with more or less of skill to other handicrafts.

Every farmer's house was a hive of varied productive industry in which old and young joined, so that Connecticut not only produced a sufficiency of most of the necessities of life for her own use, but at least as early as 1787, and before steam turned a single wheel within her borders, Mr. Tench Coxe observed that these household manufactures afforded "a surplus sold out of the State," mostly of textile fabrics. He was reckoned but a poor husbandman who, possessing a farm of moderate extent and reasonable fertility, and a family of the average size, did not produce from his own acres most

of the necessaries and the ordinary comforts for his own household, so that little money needed to be spent with traders.

There was but little accumulated wealth, either public or private. Of public buildings, which are its usual evidence and record, there are perhaps two, the stone church in East Haven and the brick church in Wethersfield, which have entered their second century with stability to promise and comeliness to merit their preservation to a third.

So little were the people accommodated with, or dependent upon any public means of transportation that even for many years later than the foundation of this Society its meetings were signalized by the convergence from the outlying districts, of saddle horses with an unmistakable professional air acquired from their owners, or of gigs splashed with the mud or powdered with the dust of every geological formation in the State.

Connecticut was at least as well, and perhaps better supplied with periodical publications than any other of the United States, but four newspapers once a week, of dimensions that strike us as ludicrously small, one each in Hartford, New Haven, Norwich and New London, were the entire out-put for the State.

But the sun rose nowhere upon a people better fed, clad and lodged, more free from the nuisances of pauperism or the idle rich, more enterprising and industrious, more law-abiding and tenacious of right, nor more eager for the education which made and kept them so, than the citizens of this little commonwealth.

So different from ours were the social conditions, and especially the distribution of population, a hundred years ago, that at that time and even as late as the first decade of the present century, the most renowned physicians were as likely to be found in little agricultural hamlets as in either of the two chief towns of the State. At a time when neither New Haven nor Hartford had a physician who left any considerable record in local history, the little cluster of farms which is now Glastonbury was the home of Dr. Gershom Bulkley, (with whose redintegration from the dust of one hundred and

seventy-nine years "in his very habit as he lived," Dr. Russell so pleasantly surprised us yesterday,) an accomplished gentleman and scholar, superior in medical learning and reputation, and probably in practical skill, to any other man in Connecticut.

After him came Dr. Jared Eliot, unquestionably the first physician of his day in Connecticut, as well as an uncommonly useful and distinguished citizen in many other ways. From 1709 to 1763 he lived in Killingworth, his influence and activity radiating thence over the whole state.

Still later his son-in-law, Dr. Benjamin Gale, not less eminent as a physician and much resorted to as a medical teacher, had his home in the same little village until his death in 1790.

In his turn the first Secretary of this Society, Dr. Jared Potter, in Wallingford from 1772 to 1810, kept up the succession of great country doctors, being regarded for much of that time as the leading practitioner in the State.

It is interesting to observe in how many different ways the mental energy of these men impressed itself upon their times. Work of all sorts was less specialized then than now and many things were demanded of every capable man.

Theological speculations and discussions were rife and vivid, and they were apt to join in these "high arguments" with tongue and pen, the *odium theologicum* sometimes, it is to be feared, exacerbated by the *odium medicum* with an effect upon the polemic fire like that of the hot blast upon an iron furnace; they were zealous leaders in those improvements of agriculture and the mechanical arts which the public welfare so urgently demanded at that juncture; they were earnest sharers in the changeful and developing politics of the day,—witness the five medical signers of the Declaration of Independence, two of the five Connecticut born and bred; when the need of the country was sorest they were soldiers, not only of the medical staff but often of the field and line as well; and not the least important of their functions was the instruction of pupils who resorted to them in the absence of other schools and followed them in their daily rounds from bedside to bedside—a precious boon to the faithful student, the absence of which is sometimes felt amid all the apparatus of modern laboratories and lecture rooms.

The gentle censure which Lord Bacon passed upon the physicians of his day still to some extent held good for our predecessors of a century ago.—“One cannot greatly blame them that they commonly study some other art or science more than their profession. Hence we find among them poets, antiquaries, critics, politicians, divines, and in each more knowing than in medicine.”

Now that we, their successors, confine our thoughts and studies more strictly within technical limits, as we are compelled to do by the enormous growth of medical science, there is room for some critic to ask whether we have not thereby suffered some loss of that mental breadth and flexibility which the healthful variety of their occupations brought to them.

It must be acknowledged, however, that so far as books and other apparatus go their equipment for practice would seem painfully meager to us.

A very little shelf-room would have held the medical library of almost any Connecticut doctor before the last decade of the last century. His standard authorities would be, in practical medicine, Boerhaave with Van Swieten's commentaries, Sydenham, Mead, Brookes and Huxham; in physiology, the great Albert von Haller; in surgery, Heister, Sharp, Pott and Le Dran; in obstetrics, Smellie, whose work was the earliest important medical book to be reprinted in America; in anatomy, Cheselden and Monro, perhaps Winslow. If the doctor were not past the reading and learning age he would have welcomed with delight among his later acquisitions the “First Lines of the Practice of Physic,” 1777, of William Cullen, and his “Treatise of the Materia Medica,” 1789, as works of clear and orderly thought illumined by some rays of those sciences which had then begun to shine with a new light. If he were still young enough to feel an enthusiasm for new and startling notions, his shelf might hold the *Elementa Medicinæ* of John Brown, and he might read and quote it perhaps too often for the peace of some of his professional elders.

And if the doctor were rich enough and something of a bibliophile he might count as his “book-shelf's magnate” some such tome as “The Anatomy of Humane Bodies,” by William Cowper, or the great work of Albinus, whose costly magnifi-

cence put them into the class of rare luxuries beyond the reach of all but a favored few.

Of almost all the books enumerated it may be said that the later progress of science has so far impaired their practical value and reduced them to the grade of curiosities that they are rarely opened now except by some student intent upon historical investigation.

"American labor at this period," says Dr. Bishop, the author of the "History of American Manufactures," speaking of the last two decades of the eighteenth century, "began steadily to change its form from a general system of isolated and fireside manual operations—though these continued for some time longer its chief characteristic—to the more organized efforts of regular establishments, with associated capital and corporate privileges, employing more or less of the new machinery which was then coming into use in Europe."

It was esteemed a noteworthy and memorable fact when President Washington delivered his first annual message to Congress in 1790, that he wore a full suit of broadcloth made at the woolen factory of Col. Jeremiah Wadsworth in Hartford, "where all parts of the business are performed except spinning," a statement applicable at that time probably to no other establishment in this country. But the tendency to combination and reorganization showed itself not only in the mechanical industries which have been alluded to, but as well in other social interests generally and actively enough to justify the motto, "*Novus ordo sæclorum*," which the Continental Congress with no vainglorious elation had adopted for the great seal of the States.

"The late war" (say the physicians of New Haven County in the judicious and well-expressed preface to a publication which we shall have occasion to speak of more fully hereafter) "brought many ingenious and learned physicians together from all parts of the continent, and the army formed them into a temporary society whose unreserved communications have contributed to the improvement of medical knowledge, and the establishment of a new and important era in the healing art. By this means the faculty have become more sensible of the importance of uniting their endeavors."

Very high among the many incidental benefits of the great struggle through which the country had recently passed we must rate new ideas of organization and coöperation. It is a matter of course that we find the names of many who had seen army service prominent among the first promoters of our Society.

At any rate the time was ripe for this organization, and its birth was neither accidental nor untimely. Massachusetts had had its incorporated Medical Society since 1781, New Jersey its since 1783, and New Hampshire, though later than we by nearly three decades in her first petition for a charter, had secured one in 1791. In Europe the century was prolific beyond precedent in the birth of medical and other scientific societies.

The first crepuscular gleam heralding the dawn of this Society was a Memorial of eleven physicians of New London County, a quaintly worded document, in which a complete destitution of all punctuation is counterbalanced by an indiscriminate and bewildering profusion of initial capitals, dated at Norwich the 27th day of September, 1763, and presented "To the Honourable General Assembly of the Colony of Connecticut to be Held at New Haven the second Thursday of October next.

"The Memorial of us the Subscribers Physicians in said Colony Humbly sheweth That whereas Life is the most Desirable of all Sublunary Enjoyments [Schopenhauer, whose philosophy was to prove this 'most Desirable' to be an unmitigated nuisance, was as yet unborn, nor was there any apostle of Nirvana at hand to dissuade our memorialists from committing themselves to this rash assertion, so they go on boldly,] and Health so Invaluable a Blessing that without it in some Degree Life is Little Worth [no great army of professional valetudinarians with ever fresh delight in the dainty triumphs of the pharmacist's art and with a new and sympathetic specialist for each mysterious symptom in the order of its development, had as yet arisen to show the absurdity of this statement,] And that the Promoting Medical Knowledge among Physicians is the Necessary and direct means to Restore health and even Preserve Life and is of great Importance

as it will Render The Practice of Physic more safe and Serviceable to the Patient And at the same time yeald more Satisfaction and Honour to the Profession [between all the lines here, if the Honourable General Assembly of that day was like its recent successors, one distinctly hears grunts expressive of dissent and disapproval from Their Honours]. *And whereas more than one hundred years have already passed away since the Planting this Colony and Nothing has been Publickly done to Distinguish between the Honest and Ingenious Physician and the Quack or Emperical Pretender by reason of which Imposture and Imposition has been and still is but too Commonly Practiced among us to the great Injury of the People as well as the Disparigment of the Profession* [lively indications here of Their Honours' indignation at the illiberal arrogance of the Memorialists] *We your Honours' Memorialists would therefore humbly pray your Honours to Take the Matter under your wise Consideration and Order Enact that the Physicians in each County in this Colony for their Mutual Edification and Instruction have Liberty and power To meet Together in their Respective County's at such time and Place as they shall Appoint once in three months and at the first of such their Meetings choose a Commitee of three or More approved Physicians to Continue for the Space of one year and Annually to be Chosen such Committee for the time Being to have full power to Examine and if found duly Qualified Approve such Candidates for the Practice of Physic who shall offer themselves for Examination and if any Person offering himself shall be Adjudged not Qualified and so not Approved by such Committee that such Person may apply himself to any Quarterly meeting in the same County and be there Examined and Determined by such meeting and Approved if they think Fit by Proper Certificate and that for the future no Person or Persons that are not Already deemed Physicians* [here Their Honours' murmur of suspicious dissent rises to a growl of opposition and goes on *crescendo* to the end] *who shall pretend to Practice Physic without such Approbation first had And Obtained Appearing by Proper Certificate be Allowed to Bring or Maintain any Action against any Person or Persons To Recover*

any Debt Demand or any other thing for any service he or they shall Pretend to have done or Presumed as a Physician—Or otherwise Enact and order some proper regulation for the Practice of Physic as in your Wisdom shall be thought most Proper And as in Duty bound Shall ever Pray Dated at Norwich the 27th day of Sept. 1763." And then follow the names of eleven signers, the leading physicians of eastern Connecticut, some of whom then and afterward conspicuously deserved well of the State.

What their Honours in their Wisdom thought most Proper appears clearly enough from the curt memorandum with which this document closes.

In the Lower House.

The Question was put whether anything should be granted on this Memorial—

Resolved in the Negative.

Test ABR^M DAVENPORT, Clerk.

And that name at the foot of a paper stands for something pretty conclusive; the name of the man who once afterward, on the 19th of May, 1780, when some timorous souls in the Connecticut Legislature thought that the darkness of the judgment day was settling upon them and moved to adjourn in deference to that solemnity, called for candles to be brought in, that business might be continued and the Judge of mankind find them doing their duty.

The reporter of that day of the Memorial was not as the reporter of the present. Whatever there may have been on Their Honours' part of withering denunciation of narrow-minded medical bigotry or of resounding assertion of popular rights as against the tyranny of a privileged class does not appear of record and is lost in whatever limbo is devoted to the spent explosions of noxious vapors—hopelessly lost except as illustrative parallels may be supplied from the experience of those who more recently have tried to get laws enacted for the discouragement of some of the most specially baneful and predacious forms of medical imposture and for the protection of that large and pitiable class, scantily endowed with the instinct of self-preservation and firm in the fatal belief that the cure of disease or injury is a matter not of natural law but of

supernatural interference, and ready, in consequence, to offer up their lives to any one showing sufficient ignorance and unreason to forbid the possibility of his powers resting upon the fallible human intellect, and so spurning all semblance of common sense as to justify his claim to some supernal efficacy.

Although the attempt of the eleven physicians of New London County failed in the General Assembly, yet it was not wholly without good results in a different way. In some form or other, with more or less of vitality, a voluntary association of physicians seems to have been maintained in that county until the formation of the State Medical Society. As early as 1767 in Litchfield County also there was a similar organization, although it must be confessed that the extant accounts of these bodies are of rather a dim and legendary character.

The year 1783 found the physicians of New Haven engaged in a systematic, business-like and persevering purpose to procure a charter for a Medical Society. The Legislature then met every October in New Haven and every May in Hartford, attracted to those places, as popular tradition declared, respectively by the autumnal oyster in New Haven bay and the vernal shad in the Connecticut river, and it may be that the annual opportunity for studying the habits of the *species Legislator* of the *genus Homo* had fitted the New Haven doctors for dealing the more effectively with that august body. They understood that it was not enough to present a petition with a laudable object stated honestly and clearly, but that something of the method brought to bear upon the unjust judge in the parable might be necessary if they would shun the fate of their Norwich brethren.

"On the 10th day of December, 1783, Leverett Hubbard, Eneas Munson, Samuel Nesbitt, Levi Ives and Samuel Darling, all of New Haven, requested, by advertisement in the *Connecticut Journal*, the physicians and surgeons of New Haven County to meet at the Coffee House in New Haven, on the first Monday of January, then ensuing, at two o'clock P. M., 'in order to form regulations within the lines of their profession, of the utmost importance to the public and themselves.' " *

*Dr. Henry Bronson, Historical Account of the Origin of the Connecticut Medical Society—Proceedings of 1873.

To those who met in response to this invitation an "Address" was presented urging the formation of a County Society, which, combining its efforts with those of other similar bodies, might obtain from the honorable Legislature an act of incorporation the "more effectually to regulate the practice of physic."

The movement thus fairly set on foot did not immediately attain its declared object. The Legislature of that day ran no such charter mill as that which we are accustomed to see turning out new corporations by the gross, but looked with suspicion upon every proposal showing the least color of special privilege or class legislation, and, says Dr. Bronson, "what may be called a private charter did not (I believe) exist in the State." *

So, without a tedious enumeration of the obstacles successively met and overcome, suffice it to say here that some eight years of persistent labor, of reiterated petitioning, of letter-writing and of personal solicitation, of argument and remonstrance, of instruction of the public mind by means of newspaper articles, were spent before, in May, 1792, the charter of the Connecticut Medical Society was finally enacted. In the meantime the New Haven County Society, the originator and most active promoter of the legislative movement, had, as a merely voluntary association, maintained a creditable and productive degree of activity which one would think might at length have satisfied its members that the sanction of the State was of less importance than they had at first supposed. Its meetings were frequent and seem to have been well attended and interesting, its members very soon numbered sixty-one, probably including all the practitioners in the county who were considered worthy of fellowship, and in the fifth year of its existence it published a collection of "Cases and Observations: by the Medical Society of New Haven County, in the State of Connecticut."

The appearance of this comely pamphlet of eighty-six pages was an event of importance. Nothing of the sort had before been attempted in this State, and very little, if anything, in the United States. The earliest American Medical periodical, "*The Medical Repository*," a quarterly of about one hundred

* Loc. cit.

and fifty pages, began its useful and honorable career in New York in 1797, nine years later. The cases related in the New Haven pamphlet were interesting and instructive and some of them were of decided importance.

Dr. Samuel Nesbitt narrates a case in which he practiced the unusual procedure of sewing together a divided *tendo Achillis* with results such as a surgeon even in these days of antiseptics might congratulate himself upon. Another relation by the same practitioner probably elicited less critical comment from his contemporary auditors than it would from readers of the present day: a case of "violent and copious discharge of blood from the stomach," in which "the patient lost, in about thirty-six hours, ninety-two ounces of blood by the lancet; and I am confident, by the most moderate calculation, double that amount by hemorrhage. The treatment, by God's blessing, had the desired effect." "I suspect," says Dr. Bronson, with characteristic caution and causticity, "the blessing would have done better without the treatment."

Another member, Dr. John Spalding, gives the history of an injury caused by the bursting of a musket, the breech-pin being driven through the right eye of the patient, destroying its bony orbit and lodging against the cervical vertebræ and angle of the jaw, from which difficult position it was extracted after eight months, a path for its removal having been opened with the trephine through the lower jaw, and the patient made a good recovery. Dr. Spalding was surgeon of Col. Israel Putnam's regiment, the Third Connecticut, during the Revolutionary War, and probably came unusually well equipped for the treatment of a case of this kind.

The pamphlet contains one illustration representing a teratological specimen occurring in the practice of Dr. Leverett Hubbard. Ambroise Paré would have welcomed the little stranger cordially and enrolled him in his 25th Book, "Of Prodigies and Monsters." The wood-cut is of archaic type, giving one a depressing view of contemporary glyptic art and bearing so close a family likeness to the regulation tombstone cherub of the period as to suggest that it was the work of some mortuary stone-cutter, impressed into service for this emergency.

But altogether this publication was a valuable and successful one. It brought credit to the Society at home and abroad, it impressed the public mind with a sense of the usefulness of such a body, and it undoubtedly helped to determine the reluctant Legislature some four years later to yield to the persistent efforts of the profession throughout the State and incorporate the Connecticut Medical Society.

There was little room for hesitation in the choice of the first president of the New Haven County Medical Society. Dr. or Col. Leverett Hubbard, for *tam Marti quam Mercurio*, he rejoiced in the double title, was by age, by personal dignity and social position and by the extent of his practice and professional influence easily the leader of the physicians of the county. By all accounts he was a type of the energetic, self-reliant, successful physician and man of affairs, driving a multiplicity of horses in his large practice ("Four good horses!" exclaimed the admiring public); building for his dwelling the square hammered-stone house which, though fallen upon evil days of lager-bier and exotic squalor, is still a landmark at the head of Meadow street; and finally leaving a handsome estate to his heirs. If it was not a matter of course it was at least of obvious propriety, considering the part that he and the County Society had taken in the establishment of the Connecticut Medical Society, that he should become in turn the first president of the larger body. He died in the second year of his incumbency of that office and the seventieth year of his age, being one of the latest victims of the yellow-fever epidemic which combined with one of "putrid sore throat" (the name diphtheria was not yet in use) to make that year a gloomy one in the city's annals.

If I have here diverged into biographical details from the strict line of history which I started with intent to follow, it is that I might the more impressively state the disagreeable but important and memorable fact that the first president of this Society died of yellow-fever coming as an incident of his daily work, which disease in the same season prostrated three other physicians in this same little rural city and greatly swelled the general death-rate. Looking back upon the accounts handed down to us of this invasion of an exotic foe and read-

ing them in the light of modern experience and experiment, we see clearly enough how the people brought it upon themselves; how they first through months of the right season prepared the culture-medium with industrious accumulation of filth; how they then introduced the germ with a success altogether more infallible than waits upon the attempts of a skillful gardener to establish a new mushroom bed. And although, thanks to better arrangements for urban living, to greater vigilance of quarantine and sanitary police, we have grown to think of this tawny demon of the tropics as a possibility so remote from our daily life that we take thought for it no more than for earthquakes and tornadoes, yet it is wholesome to remember as a warning against possible relapse into disorder and negligence, that very much less than a century ago, even within the memory of men now living, this malign pestilence was a periodical menace to tide-water towns even far to the east and north of us. And considering the immunity of the North from epidemics of this disease for so many decades last, and the greatly diminished frequency and extent of its visitations even to our Southern borders of late years, is it unreasonable to hope that some time not far in the future some hand may supplement the monumental work of René Laroche with an exultant chapter describing the final appearance and announcing the extinction in this country of that foe of civilization and of the human race?

The century at the close of which our Society had its birth "was an age of medical systems and theories," as the learned and acute Johann Hermann Baas observes. "None of the preceding centuries exhibits, even approximately, so great a number of the latter; indeed all preceding history is scarcely so rich in such developments. They sprung up with premature luxuriance from the soil of medicine, saturated with the immature and as yet insufficiently digested material derived from the natural sciences—and thoroughly steeped in its own newly acquired stores of knowledge."* The building of ingenious theories is carried on with comparative ease in a region unobstructed with obstinate and inconvenient facts. "*Addictus jurare in verba magistri*" might have been said of

*Outlines of the History of Medicine, p. 602.

each one of the physicians who gathered at the birth of our Society, while each according to his allegiance might have described himself as a Boerhaavian, a Stahlian, a Cullenian, or a Brunonian. These names are as destitute of all vitality as the dried coleoptera which have been pinned for a century in an insect collector's cabinet, to the practitioner of to-day. He might draw you the ideal temperature wave-line for a case of relapsing fever or give you the portrait and life history of the last new bacillus, he might describe to you with marvellous precision the tissue changes which his auscultation had detected in the lungs of one patient or the exact cerebral convolution where some neoplasm has taken up its direful position within the cranium of another, but for himself he could scarcely tell you whether he is solidist or humoralist.

Have we then reached that condition described by Lord Bacon, where facts have been "gathered to excess; yet the error of our profusion has become the occasion of our indigence"?

I believe we are still far from it, and I rejoice to see that lust for hasty generalization so prevalent in the medical systems of the last century, so characteristic of immaturity and of poverty of material always, discarded in our own time for the observation and interpretation of phenomena with a patience and devotion unequalled before in the history of science and which can see nothing mean or trivial in any manifestation of life, whether normal or morbid. In the line of one well-known family we may mark the extent of the change. Erasmus Darwin with his "*Zoonomia*" and his medical system may well stand as a type of the former movement and as a warning, with his trumpery poetical machinery of elves, gnomes and fays, of the nuisance of an exuberant fancy let loose upon the field of natural science; his grandson, Charles Robert Darwin, with his minute observation, his inexhaustible patience, his lucid reasoning, is a type of the present tendency and a noble instance of the scientific uses of an orderly and logical imagination.

The powers conferred and duties defined by the first charter of this Society were in brief that "the physicians and surgeons living in the respective counties" should organize themselves upon the plan which has been substantially followed to this

day: That they should assemble themselves county-wise into meetings; that they should then and there by their major vote determine the qualifications and admission of their own members; that these county meetings being duly organized shall elect delegates to the annual convention of the State Society; that this larger body shall have full power to make by-laws to promote the ends of said Society, provided they be not repugnant to the laws of this State, or of the United States, and may expel members from said Society for misdemeanors as relative to said Society; that they shall appoint Examining Committees in the respective counties who shall examine such candidates as shall offer themselves for that purpose and shall license such as shall be found qualified for the practice of physic or surgery and receive them on their desire as members of said Society in their respective counties; that they may confer honorary degrees on such of the faculty as they may, from time to time, find of distinguished merit; that the members shall, according to their ability, communicate useful information to each other in their respective county meetings; that such meetings shall, from time to time, transmit to the convention such curious cases and observations as may come to their knowledge; and that it shall be the duty of the Convention to cause to be published such extraordinary cases and such observations on the state of the air and on epidemical and other disorders as they may think proper.

It was also directed that the first Convention of the Society should be held at the Court House in Middletown, probably with a view merely to the vehicular convenience of attending members. On that neutral ground the equestrian who had picked his perilous path from remote Windham might meet his way-worn brother descending from the heights of Litchfield without either being conscious of an unfair advantage, and gigs splashed with the crumbling gneiss of New London County might make friendly comparison of colors with those bearing the alluvial stains of Fairfield. Twice subsequently, in 1794 and 1798, the Convention was held in Middletown, but since that time, in consideration of the increasing proportionate size of the chief cities of New Haven and Hartford, the annual meetings of the Society have alternated between those

cities, though not at first with entire regularity. In several instances, also, it may be noted, by special invitation of other towns, the annual Convention has been held outside of these limits. With the continuous and rapid increase in number and size of the other cities of the State it is probable that such precedents may be more frequently followed in the future, and possibly with some advantage of increased interest in the Society in such parts of the State as might thus be visited.

It is a noticeable and, I think, a significant fact that for many years after the foundation of this Society the tenure of office of its annually elected presidents was often prolonged through successive years. Not for many decades did we think of borrowing from mousing politicians the paltry and pernicious notions of annual rotation in office and geographical claims for official position. The aim of the Society seemed to be to honor itself in its officers, and so when some such fitly chosen name as Eneas Monson or Mason Cogswell was placed at the head it was likely to stay there year after year until death or declination of re-election changed it. Even when some of the border towns were a good day's journey from either of the chief cities instead of being within three hours' travel, as now, it seems to have been felt that our State was too small to give room for "local claims" and that nothing could more certainly minimize the sense of dignity and responsibility attaching to the presidency than for the incumbent to feel that he owes his position not so much to any desert of his own as to the fact that the revolution of six or eight years has brought about the turn again of the particular neighborhood where he happens to live, and that next year the "claims" of some other section of the little domain of Connecticut must be considered.

The points stated in our original charter are not numerous and seem sufficiently clear and simple, yet, without undue stretching of either the spirit or the letter of the law it was found to be fairly comprehensive in its scope. Mr. Carlyle, in his own amiable way, has suggested that amid the herd of societies, scientific, philanthropic and political, one for the Diffusion of Common Honesty might not be amiss. This pur-

pose, though not expressed in so many words, was, I am sure, near to the hearts of our founders as one of the important functions of the Society when, at the second of their annual Conventions, they vindicated their title to be ranked with the liberal professions by enacting a stringent law forbidding the holding of any nostrum or medical secret by any member upon pain of expulsion. As early as May 17th, 1796, we find this minute appearing upon the record:

"It having been represented to this Society that one of their members had gleaned up from the miserable remains of animal magnetism a practice consisting of stroking with pointed metallic instruments, the pained parts of human bodies, giving out that such strokings will radically cure the most obstinate pains to which our frame is incident, causing false reports to be propagated of the effects of such strokings, especially where they have been performed on some public occasions, and on men of distinction; also that an excursion has been made abroad, and a patent obtained from under the authority of the United States to aid such delusive quackery—that under such auspices as membership of this Society and the patent above mentioned, the delusion is progressing to the Southward, which may occasion disgrace to the Society and mischief abroad; therefore this Society announce to the public that they consider all such practices as barefaced imposition, disgraceful to the Faculty and delusive to the ignorant; and they further order their Secretary to cite any member of this Society practicing as above, before them at their next meeting to answer for his conduct, and render reasons why he should not be expelled from the Society for such disgraceful practices."

"Which no names being named, no offence can be took," sagely remarked Mrs. Sarah Gamp on another occasion. That principle of social ethics scarcely applied here. Everybody knew that Dr. Elisha Perkins of Windham County was the culprit and what he had been doing with his "metallic tractors." Whether he offered any defence before the Society does not appear from the record, but the next year *exit* Perkins, and whatever inconvenience inhered in excommunication was his. His sufferings, however, must have been largely assuaged by

the triumphant vogue which "Perkinism" rapidly gained and for a brief period maintained, especially on the other side of the Atlantic, where dignitaries in church and state and other "persons of quality" lifted up their voices with one accord in that jubilant bray of grateful applause wherewith intellects of a certain order are wont to announce the advent of their prophet and leader. Doubtless, also, the indignation of some of his friends which vented itself in denunciations of the blind bigotry of the Medical Society was balsamic to his hurts. There were not wanting many, too, who regarded Perkins as sincerely benevolent in his aims though perhaps mistaken as to his methods and results. The price of five guineas demanded for his two bits of metal, which would be dear at five pence, is not necessarily incompatible with this gentle theory of his character, for we remember that another great philanthropist and medical reformer, charged with more and higher messages to mankind, if we take his own estimate of them, than were ever intrusted to any other one man, Samuel Hahnemann, stopped in the midst of his divine mission to peddle borax as a rare and inestimable drug at a *louis d'or* an ounce.

The frequency with which this law against the holding of nostrums descended upon the back of offending members of the Society during the first twelve or fifteen years of its history, points to certain changes which have come to pass since then, for nowadays some grocer or shoemaker is more likely to be the owner and vender of a patent medicine than any one who can make some show of medical education, but it also shows one thing as changeless through the lapse of centuries, the same in the day of Elisha Perkins as in the day of Leslie Keeley, that to claim the private ownership of any means of curing disease or alleviating suffering is to give the infallible note of imposture and roguery.

Very much later in the history of our Society, long after this bad business of trading in nostrums and patent medicines had been abandoned by all who valued their repute as members of an honorable profession, to such hands as we expect to see engaged in the service of greed and imposture, need seems to have been felt for some general rule, of sum-

mary operation, to fit the case of such peccant members as, deaf to the ordinary rules of good society, fail to withdraw themselves from company in which their presence has ceased to be either useful or agreeable.

When a member of a more or less learned and scientific society declares, not to his fellow members so much as to the unlearned and pudding-bestowing public, that certain fantastic notions wholly opposed to the generally admitted facts of sane experience have assumed, in what he calls his mind, the importance of fundamental and vital principles—when, nevertheless, he proceeds to exemplify in his daily conduct his absolute distrust of such alleged dominant principles by throwing them overboard in every time of stress and danger—he cannot, with entire dignity and grace, very vociferously complain if his intellectual and moral processes are regarded with suspicion, nor even if he finds himself eliminated from the company of those who use the ordinary rational method of investigation and accept the conclusions that result from it.

The first potato that falls a victim to a new and destructive disease may enjoy the posthumous honor of being diligently studied in diaphanous slices beneath the high powers of the microscope by a professor radiant with the rapture of discovery; his later succumbing kindred will be shoveled into an ignominious heap of decay by the indignant agriculturist.

Let us drop the vegetable parallel before it leads us into some painful details of analogy which might distress a sensitive mind.

The first person professing a creed startling by its eccentricity and wildly chaotic in its tendency is likely to get such hearing as is prompted by the startled curiosity of his neighbors. When his vagaries have lost the charm of novelty and have dropped into a dull, monotonous familiarity, neither he nor any imitator of his should expect more careful attention than is needful to classify his condition and drop him into the appropriate ward, cell, dust-bin, rubbish-heap or what not. So that it is not surprising to find our Society in 1852 adopting a plan for dealing, as the lawyers say, *brevi manu* with any member professing to practice any of the “pathies” or any exclusive mode of treatment, and providing for his prompt dismissal.

Neither the plaintive outcries of some of those who have felt the rigor of this law, nor the gratuitous censure of thoughtless bystanders have ever persuaded me that it is either unjust or inexpedient, or that it was dictated, as has been charged, by jealousy, illiberality and bigotry. It often happens

“That liberal shepherds give a grosser name”

to what those of nicer perceptions regard only as wise precautions to preserve the purity of the air, and I have looked in vain through the records of our Society for some evidence of those evil traits which a certain cheap sort of critics are pleased to consider characteristic of the medical profession. On the contrary there is no lack of acts in the general tone of that of 1811, for instance, in which the Society voted to recommend Mr. Sylvanus Fancher “to the public, as a gentleman deserving employment in his business,” of vaccination, “from a knowledge of his performance and considering his cheap and skillful method” as “practiced in many towns in this State.” This jealous Society did not betray that vice in its cordial helpfulness to a simple layman who might have been regarded as a poacher in its preserve; this illiberal Society was so anxious that the public should be cheaply and effectively protected from a formidable enemy that it gladly gave up a source of material gain in hope of promoting that end; this bigoted Society had already, in less than a decade, made just appreciation of the most revolutionary discovery in the history of medicine and brought it into active service in its true relations to the common weal.

The State of Connecticut needs to shun comparison with none of its sister States as regards those public institutions which are most closely connected with medical work and most dependent upon it for their success.

The annals of our Society suggest, but do not fully record, the debt which the State owes to our profession for these ornaments and safeguards of its structure.

The first in age of those institutions which our Society can justly claim as its progeny is that which began its career with a charter from the Legislature in the year 1810 as The Medical Institution of Yale College. Until that date one of the

most important functions of the Society had been the examination of candidates for practice and the licensing of such of them as were found competent. The Society had also the power, and in rarer instances of distinguished merit exercised it, of conferring the honorary degree of Doctor of Medicine. It is quite in accord with that spirit of unselfish liberality and devotion to the best interests of the public which is so often exemplified in our annals that this Society should have strenuously joined with the Corporation of Yale College in establishing the school of medicine. The powers which we relinquished by this action were a considerable source of emolument and much more of authority, but the paramount consideration of the better education which the proposed school would offer to students outweighed all other motives. President Dwight, at that time the illustrious head of the College, approved the plan, and he was apt to be a majority in any body of which he was a part. The industry and perseverance, however, which finally brought forth the medical school equipped for work seems to have been on the part of the Medical Society.

The principal projectors of this enterprise, says Dr. Knight in a lecture printed in 1853, were Dr. Eneas Munson, President Dwight, Professor Silliman and Dr. Eli Ives. They were aided by their medical friends, in various parts of the State, and the project received the official sanction of the State Medical Society, and the hearty coöperation and support of a great portion of its members. A certain reluctance was felt on the part of some of the members of the Connecticut Medical Society to relinquish to this school the power of granting licenses and degrees, which had been enjoyed by the Society for many years. To allay this, it was agreed that the Board of Examiners should consist, in addition to the professors, of an equal number appointed by the Connecticut Medical Society, of whom the President of the Society should be one, with a vote at all times and a casting vote if there should be a tie; thus virtually placing the power of granting the degree in the hands of the Society. The Society also reserved to itself the power to nominate professors in the school, and to appoint yearly two deserving indigent students

from each county, who were to receive their lecture tickets gratis. On this basis harmonious relations between the Medical Society and the new school were established and long maintained.

For more than half a century the Society retained a warm and active interest in the school. The hold, however, of the parent upon its offspring was visibly, though gradually, relaxed during successive years, pretty nearly corresponding with the waning market value of medical degrees, and with the growing number and importance of other medical schools, one may infer, until in 1885 the last connection between the two, a sort of marsupial semi-attachment, was divided by act of Legislature.

The issuing of licenses, which were left in the gift of the Society alone, and which were granted after a shorter period of study than was required for a doctor's degree, went on at such a rate during the first twenty-four years, that at the end of that time there were about three hundred licentiates to four hundred graduates. Then, as now, the general public was more confiding than critical, and did not too curiously consider the difference between the vernacular on the paper of the Medical Society and the Latin on the college parchment. After that time the license was less frequently sought from year to year, the steadily increasing facilities for gaining the doctorate having cheapened the authority of the meaner document. The last one issued, a solitary one for many years before, seems to have been in 1877.

It is a remarkable fact as showing the popular interest in the new medical school, that the Legislature was induced to grant to it in the second year of its work the sum of twenty thousand dollars. The gift was a large one for that day and the object of its bestowal unusual. It is said to have been the result of the personal exertions of that great surgeon, Dr. Nathan Smith, then a new comer and nearly a stranger in the State, giving a striking proof of the contagious energy and enthusiasm which were among his many remarkable traits.

As early as 1812 traces begin to appear upon our records of the movement which was continued for several years until its final result in the establishment of a Hospital for Lun-

tics. The first formal attempt to better the condition of these unhappy beings was in a letter addressed to the Medical Society by Dr. Nathaniel Dwight of Colchester, and a committee was appointed thereupon to inquire into the number and condition of the insane in this State. There were at this time in all the United States but three institutions for the treatment of the insane, all of them small and in the immediate vicinity of the largest cities. Apart from those there was absolutely no provision for the medical treatment, nor any decent arrangement for the care of these miserable beings, and their condition was, in consequence, something from the mere description of which we revolt with disgust and horror.

No one of the philanthropic enterprises in which this Society has engaged has ever proved to be an easy work. Persistently, year after year, the struggle for the relief of the insane was maintained with ever increasing courage against popular apathy and legislative niggardliness. Two years after the initial step the Society wisely appealed for assistance and moral support to the largest and most influential religious organization in the State, the General Association of Congregational Churches, and enlisted their efforts in the project. In 1821, at our Annual Convention in May, it was resolved to adjourn to a special meeting in October which was to be devoted to this business, and the conduct of the matter in the meantime was left in the hands of a committee which was probably as strong and efficient as could have been made up from the membership of the Society.

"The Constitution for the organization of a Society for the relief of the Insane, reported by the same Committee," with some amendments, was adopted by the Convention. It became the basis of the legislative act of incorporation and remains as to its principal features in force to this day. By one of its provisions our Society still has the responsible duty of nominating the chief medical officer of the Retreat for the Insane and of furnishing its Board of Medical Visitors. The Society proceeded to appropriate a large part of its scanty funds for the promotion of the objects of the Insane Retreat, and industriously set about the tedious and disagreeable task of raising subscriptions for the same purpose throughout the

State. The noble establishment in Hartford which has grown from this beginning, stands to-day a monument of the forecasting wisdom and philanthropy of its founders, unsurpassed in comfort, attractiveness and efficiency by any of those vast and magnificent structures which have been devoted to the same purpose by the lavish wealth of the greatest of our sister commonwealths. The watchful interest of our Society in the insane did not cease with the successful establishment of the Hartford Retreat. Frequently from year to year, since that time, we find the Society urging upon the Legislature the necessity of more liberal appropriations for the indigent insane.

Another point which engaged much of the time and the most earnest efforts of the Society was to secure some special provision for insane convicts, who for a long time were allowed to remain in the State Prison either indiscriminately herded with other prisoners or permanently confined in cells, according to the degree of violence which they exhibited.

Largely as a result of our perseverance has the great institution for the insane at Middletown been established and grown to its huge though, alas, still inadequate proportions.

The latest move made by this Society in behalf of persons alleged to be insane, was, just four years ago, to procure a modification of the law in regard to their commitment to any place of detention, and also to provide for the frequent inspection of all asylums, public or private, so that the possibility of any such persons being unnecessarily or unwisely confined would seem to be now, in consequence, reduced to a minimum in Connecticut.

In the year 1825 formal action was begun in the Convention of the Medical Society for the establishment of a General Hospital, "to be so located as best to subserve the interests of the Medical Institution of Yale College," and at the same time all fees accruing to the Society from degrees conferred (then five dollars in each case) were appropriated for the benefit of the Hospital. By the efforts of the Society, acting through a committee appointed for that purpose, the act incorporating the General Hospital Society of Connecticut was passed by the Legislature in the

next year's session. In it were named as corporators ten well-known gentlemen, all but one of them being members of the Connecticut Medical Society, four of them being of the faculty of the Medical College as well. When, nearly a year later, these corporators first met for the purpose of organizing, they elected a board of twelve directors, of whom only one was not a member of the Connecticut Medical Society. Still later, in the next year, an application to the Legislature for a grant of money in behalf of this hospital having proved futile, the public were urgently appealed to for help. Here, too, the initiative was in the medical fraternity. Four of the faculty of the Medical College headed the subscription list, three of them giving each five hundred dollars, and the fourth, who had just become a resident of New Haven, and been added to the faculty, giving one hundred and twenty dollars. In the entire list of subscriptions from all over the State of Connecticut, there was but one other of five hundred dollars.

It was a day of small things; money came in the scantiest dribblets, and during the more than four years which elapsed before the hopes of the enterprising and persevering projectors began to be materialized in stone and mortar, there must have been some times when they felt themselves weighed upon with the heaviness of discouragement.

The criticism was freely offered that the undertaking was quite unwarranted by any present need of New Haven or of Connecticut, and indeed something of a prophetic spirit was required to animate the promoters to such an extensive discounting of the future. There are always some advantages, however, in being in advance of the times in such a business. The chief of these advantages is obvious to-day in the noble and well situated tract of land upon which the hospital stands and which the founders of this institution bought for a sum which now seems incredibly small. If the acquisition of a site had been delayed many years, it is probable that the hospital would have been given either less ample breathing-room or a less central position.

The group of spacious and commodious structures which of late years have clustered about the nucleus of the first

building points to the increased importance of the New Haven Hospital in popular esteem, but whatever it may have since gained from public subsidies or private munificence, and whatever prosperity may be awaiting its future, it must never be forgotten that it was originally the offspring, and for many anxious years of chill penury, the nursling of our fraternity exclusively.

In the growing sisterhood of Connecticut hospitals the Hartford Hospital was the second born, after an interval of about thirty years. We may not call it so directly the work of the Connecticut Medical Society acting as an organization as was its elder sister, but none the less is it true that its first and efficient promoters were members of the Society and that without them it could never have attained, as it speedily did, to an enviable condition not only of medical success but of financial ease. Especially heavy is the debt of gratitude that this hospital owes to one physician, the late George B. Hawley, whose vigilant devotion to its interests established the habit of almsgiving in its direction to such a degree that at one time a Hartford will containing no bequest to the hospital might almost expect on that ground to meet with some difficulty in the Probate Court.

Such is now the general and increasing recognition of hospitals as one of the prime necessities of any plan of enlightened and Christian socialism, that our Society no longer needs to exert its corporate strength to secure the erection of new ones as they are required by the growth of population. There is now, indeed, some danger of an overdoing of this beautiful form of practical charity, and we may yet some time have to regard the zeal which erects and furnishes buildings and then leaves for the doctors an unending and unpaid expenditure of time, skill and vitality, to make them of any use, as akin to that of the late lamented Artemus Ward, who declared his determination to crush the rebellion if it took every one of his wife's brothers to do it.

If time permitted it would be a pleasure to recite here the beautiful and pathetic story which so closely connected the origin and early history of the American Asylum for the Deaf and Dumb at Hartford with the Connecticut Medical Society.

Our president from 1812 to 1823, Dr. Mason Fitch Cogswell, an accomplished gentleman and an admirable surgeon, of high social as well as professional distinction, experienced in his own family an affliction which enlisted his active sympathy for the then untaught class of deaf mutes to which his daughter belonged. It was as a result of his devoted labors that the Asylum, the first institution of its kind on this side of the Atlantic, and for years afterward the only one, began, in April, 1817, that beneficent work which has rescued thousands from mental vacuity and lifted them to a plane of social usefulness and happiness.

Only a brief allusion is possible here to the earnest and continuous interest taken by the Society at an early period, in attempts to restrain the excessive popular use of stimulants. Beginning in 1812, long before the cheap and noisy trade of professional temperance reformers was set afoot, we find the Society seriously considering and trying to impress upon the public the mischiefs, less understood then than now, of intemperate drinking. The matter recurs from year to year as a subject for discussion in the annual Convention, and in 1828 a formal Report was issued as an Address to the Public. It expresses in forcible terms the deep conviction entertained by the Society of the enormous and multiform evils wrought by the intemperate use of ardent spirits, but its gentle assertion that there is a class of beverages, including wine, cider and beer, the moderate use of which is not injurious to health, would have won for its authors an ignominious expulsion with much contumelious eloquence from the goodly fellowship of those apostles of an improved gospel of the present day who have undertaken the repeal of the law of fermentation.

The strict limits of time allowed by the exigencies of this occasion have forbidden the attempt even to recall the names of those whose membership has adorned the records of our Society, whose labors have promoted the science and art to which they were devoted, and who have left behind them the fragrant memory of distinguished, useful and honorable lives. It would have been a grateful task duly to salute those revered and beloved presences of our predecessors which must have risen in the thoughts of all of us during the hour

that is closing. Not always has adequate record been made of them upon our books from year to year, too seldom, alas, have they left the priceless lessons of their experience in a form transmissible to their successors, but always, in some way, their works do follow them and are an inheritance to us and to all men. I pause to mention one name familiar to us all, but which has failed to be placed to the credit of his native State so conspicuously as it ought.

I am not sure that Dr. William Beaumont was ever an ordinary member of this Society, though after his removal from this State he became an honorary member. But as he was a Connecticut man both by birth and education his relations to the Society are close enough for us to recall here those well-planned and carefully conducted experiments upon the digestion of food in the human stomach, which, in the first quarter of the present century and subsequently, contributed so much to the advance of physiology. It was a happy accident for Beaumont which gave to him a patient with a trap-door in his stomach; but still greater was the good fortune to science that poor Alexis St. Martin fell into the hands of no careless bungler, but of a thoughtful and conscientious student who determined to make the most of his unique opportunity.

Surgical anæsthesia, a certain, safe and manageable method of abolishing pain, the greatest single gift to surgery since it became an art, and one of the chief mercies of God to humanity—we are proud to claim as a discovery native to our State, while for our Society we may say that some of its members (one in particular who honors this assembly with his presence to-day) were the first to recognize its genuine and inestimable importance and to perform the capital operations of surgery with its help. We have tenaciously upheld the title of our fellow-citizen and colaborer in an allied branch against all adverse claims to his rights of discovery, and no thoughtful man among us can pass by the statue in Bushnell Park which commemorates the name and figure of Horace Wells without a devout uplifting of his spirit in exultant gratitude for the grace which in our time spares men from the dire extremes of torture and horror to which their fathers were liable.

And now, standing between two centuries "with length of days in her right hand and in her left hand riches and honor," looking backward with gratitude that her past history is a part of the annals of that epoch which has been illumined with the discoveries of Jenner, of Horace Wells, of Pasteur and Lister, and many beside that make it rich beyond all precedent in gains for human life and health, for human comfort and enlightenment, with what emotions does our Society look forward to the century that opens before her? As the gains of science increase with the passing of the years, the eager but vague hopes that inspired the students of earlier ages more and more give place to something like the feeling of satisfied Leverrier when that "watcher of the skies" saw the "new planet swim into his ken," and we look with a reasonable faith to see each successive year bring its helpful gift from "Nature's infinite book of secrecy" and lead us nearer to

"The crowning race
Of those that, eye to eye, shall look
On knowledge; under whose command
Is Earth and Earth's, and in their hand
Is Nature like an open book"—

and to that

"One far-off divine event
To which the whole creation moves."

SOME EARLY POST-MORTEM EXAMINATIONS IN NEW ENGLAND.

BY CHARLES J. HOADLY, LL.D.

The General Court of Connecticut at the session of March 11th, 1662-3, passed the following vote:

This court allows unto Mr. Rosseter twenty pounds, in reference to opening Kellies child, and his pains to visit the deputy governor, [Major Mason,] and his pains in visiting and administering to Mr. Talcott. Of this twenty pounds he hath already received £11 1s. 4*d*. He is to make no further demands of any particular persons."*

Although it had been heretofore generally supposed that the opening of Kellies child referred to a *post-mortem* examination, yet it was possible that the opening might have been upon some other account. Papers recently discovered remove all doubt on the subject, but before bringing these forward, it may be well to introduce the principal persons named in them.

John Kelley was a man of small estate, living, as I suppose, on the south side of the little river in Hartford. He does not appear to have been a land-owner, and the date of his marriage or death, or the birth or death of either of his children, are not found on the town records. His wife's name was Bethia, and his mother-in-law or mother lived in Hartford. He had at least two children: Elizabeth, born about 1653, of whom we shall have more to say, and John, born in July, 1655. One by this name was made a freeman of Connecticut in May, 1658. In June, 1661, John Kelley, for drunkenness, was ordered to sit in the stocks. In May, 1663, having accomplished the age of sixty years, he was by the court freed from

* Conn. Col. Records, i. 396.

watch and ward. He soon after died, and his family came on the town for support, and the townsmen apprenticed his son John to Thomas Catlin until he should be twenty-one years old. The estate which the townsmen received, belonging to John Kelley, was but £14 11s. 9d., of which they delivered in goods £5 1s. 8d. to the widow Bethia. The town voted, September 1, 1665, to give ten pounds to David Phillips of Milford, provided he remove from Hartford with Bethia Kelley, his wife, at that time which the townsmen should appoint him.

Bray, or Bryan, Rosseter, before coming to Windsor, had been of Dorchester, Mass., of which colony he was made a freeman in May, 1631. He was early the town-clerk of Windsor, but removed to Guilford in 1651, where he purchased the accommodations of Mr. Samuel Desborough, the first magistrate of that town, who had returned to Great Britain, where he held high offices; his brother, Major-General John Desborough, having married Cromwell's sister. Rosseter seems not to have lost his affection for Connecticut colony, and suffered some inconveniences on that account after Winthrop had procured the charter. He was a royalist also, and interested himself in the search for the regicides, Goffe and Whalley. His medical education it is likely he had received before he came from England. Records show that he was held in esteem as a physician; indeed, he was probably in higher repute as such than any other then living in the colony. The town of Hartford, January 7, 1655-6, granted £10 to be paid out of their rate towards Rev. Samuel Stone's charge of physic, which he had taken of Mr. Rosseter. In May, 1660, the General Court granted £5 to Mr. Rosseter out of the public treasury, for his pains in coming to and attending Mr. Talcott in his sickness. One book known to have been in his library is now in the library of Trinity College in Hartford; it is a commentary on the aphorisms of Hippocrates by Vallesius, a folio in Latin, printed in 1588. On the title page he wrote his name with *Ex dono Dom. Hopkins*, whom we may reasonably suppose to have been Governor Edward Hopkins, to whom the grammar schools of Hartford, New Haven, and Hadley owe the greater part of their endowment. Rosseter's wife, Elizabeth, was a sister of Rev. Josiah Alsop of London,

who left her a legacy. She died in August, 1669, and he followed her September 30, 1672. Descendants of the name still remain in Guilford.

Goodwife Ayres was the wife of William Ayres of Hartford. She seems to have been intimate with Rebecca Greensmith, Mary Sanford, Elizabeth Seager, and Katherine Palmer, all of whom had an ill name as suspected of practicing "arts inhibited and out of warrant;" for which Greensmith and her husband, Sanford and her husband, and Seager were tried in 1662, and the first three named found guilty, and Greensmith and his wife executed at Hartford January 25, 1662-3. In May, 1662, Nathaniel Greensmith brought an action of slander against William Ayres respecting his wife, to the damage of £25. We may suppose it to have had reference to some charge of witchcraft.

When Ann Cole pretended to be bewitched in 1662,—her story forms the First Example in Cotton Mather's *Thaumtographica Pneumatica* (*Magnalia*, Book vi., chap. vii.) and is told more fully in his father's book, *Remarkable Providences*,—Goody Ayres was one accused by her. I suppose that she and her husband may have been the persons alluded to in the following extract from Increase Mather's account of the case: "There were some that had a mind to try whether the stories of witches not being able to sink under water were true; and accordingly a man and a woman mentioned in Ann Cole's Dutch-toned discourse had their hands and feet tyed and so were cast into the water, and they both apparently swam after the manner of a buoy, part under part above the water. A bystander imagining that any person bound in that posture would be so born up, offered himself for trial, but being in the like manner gently laid on the water, he immediately sunk right down. This was no legal evidence against the suspected persons, nor were they proceeded against on any such account. However, doubting that an halter would choke them though the waters would not, they very fairly took their flight, not having been seen in that part of the world since." Goody Ayres was before the court, we may suppose on the 13th of May, 1662, when John Kelley and his wife made their deposition, and probably for preliminary ex-

amination, as there is no indictment against her remaining on record. Upon some testimony being given Goody Ayres said, "This will take away my life," when Goody Seager shuffled her with her hand and said to her, "Hold your tongue," with grinding teeth. Ayres and his wife certainly fled precipitately about this time, leaving behind them their possessions and their son John, a boy of about eight years old. The particular court December 30, 1662, took order as to William Ayres's estate, and put the son an apprentice to James Ensign, to learn the trade of a cooper. What became of Ayres and his wife I do not know: it would not be necessary for them to go further than New York or Rhode Island to be safe: on account of a provision for the surrender of fugitives from justice, contained in the Articles of Confederation of the United Colonies, Massachusetts would not be a secure refuge for them.

The philosophy of the trial by swimming is this, as I find by a paper in the handwriting of William Jones of New Haven, sometime deputy governor: The witch, having made a covenant with the devil, hath renounced her baptism, and hence the antipathy of water to her. I will say that he does not seem to put any faith in this mode of probation, and by probably most of the clergy of New England it was regarded as magical and unlawful.*

Goody Ayres, according to Goody Burr and her son Samuel, admitted having had an interview with the devil. This is their story:— That Goody Ayres said, when she lived at London in England, there came a fine young gentleman a suiting to her, and when they were discoursing together the young gentleman made her promise him to meet him at that place another time, the which she engaged to do, but looking down upon his feet she perceived it was the devil; then she would not meet him as she promised him: but he coming there and finding her not, she said that he carried away the iron bars.

Although, as Hamlet in one of his soliloquies says, "the devil hath power to assume a pleasing shape," it was believed

* Cotton Mather in a letter addressed to Judge John Richards, dated May 31, 1692, suggests that the devils by sucking the witches may "have infused a venom into them which exalts the malignity of their spirits as well as of their bodies; and it is likely that by means of this ferment they would be found buoyant (if the water-ordeal were made upon them)."—*4th Mass. Historical Collections*, viii. 396.

that he could not so far disguise himself as to conceal his cloven feet.

John Kelley's daughter Elizabeth was taken in the night following Sunday, March 23, 1661-2, with a violent attack of something like bronchial pneumonia. In her delirium she cried out against Goody Ayres as choking and afflicting her, and the last words the child spoke were to that effect.

Belief in witchcraft was general in that age, and the girl had without doubt heard what witches were supposed to do to persons who thought themselves afflicted by them: for there had been trials in Hartford for witchcraft before this time,—Mary Johnson in 1648, John Carrington and his wife in 1651, Lydia Gilbert in 1654, Elizabeth Garlick in 1658, and Nicholas and Margaret Jennings in 1661. The child must also have heard of the reputation of Goody Ayres, and it is not strange that, considering the circumstances attending it, the neighbors as well as her parents should have thought her death had been caused by supernatural agency.

There was a provision in the Connecticut code of 1650, that whenever any person should come to any very sudden, untimely, or unnatural death, some magistrate or constable of the town should forthwith summon a jury of six or twelve discreet men to inquire of the cause or manner of their death. That course was taken in this case.

We will now give an account of the sickness and death of Kelley's child, as it was given upon oath by her parents:

The testimony and relation of John Kelley and Bethia his wife concerning the sickness and death of their daughter Elizabeth Kelley, aged 8 years and upwards, witnesseth

That our daughter on the 23rd of March, 1661, [1662,] being the Lord's day, was in good health, as she was also a long time before to our apprehension, and had neither then nor before done anything that we know of that might be prejudicial to her health; and on the said Lord's day was in the forenoon at her grandmother's house, and with her came to our house the wife of William Ayres, who going to meat did take broth hot out of the boiling pot and did immediately eat thereof and did require our said child to eat with her of the same; which we did forbid, telling her it was too hot for

her. But the child did eat with her out of the same vessel, whereupon she began to complain of pain at her stomach, for which pain I gave her a small dose of the powder of angelica root, which gave her some present ease. We did at that present wonder the child should eat broth so hot, having never used so to do, but we did not then suspect the said Ayres. In the afternoon on the same day the child went to the meeting again and did not much complain at her return home, but about three hours in the night next following, the said child being in the bed with me, John Kelley, and asleep, did suddenly start up out of her sleep and holding up her hands cried, Father, Father, help me, help me, Goodwife Ayres is upon me, she chokes me, she kneels on my belly, she will break my bowels, she pinches me, she will make me black and blue. Oh father will you not help me, with some other expressions of like nature, to my great grief and astonishment. My reply was, Lie you down and be quiet, do not disturb your mother; upon which she was a little quiet, but presently she starts up again and cried out with greater violence than before against Goodwife Ayres, using much the expressions aforesaid; then rising I lighted a candle and took her up and put her into the bed with her mother, from which time she was in great extremity of misery, crying still out against the said Ayres, and that we would give her drink; and on the Monday crying out against the said Ayres, saying Goody Ayres torments me, she pricks me with pins, she will kill me. Oh father, set on the great furnace and scald her, get the broad axe and cut off her head, if you cannot get a broad axe get the narrow axe and chop off her head; with many the like expressions continually proceeding from her. We used what physical helps we could obtain, and that without delay, but could neither conceive, nor others for us, that her malady was natural; in which sad condition she continued till Tuesday, on which day I, Bethia Kelley, being in the house and with me the wife of Thomas Whaples and the wife of Nathaniel Greensmith, the child being in great misery, the aforesaid Ayres came in; whereupon the child asked her, Goodwife Ayres why do you torment me and prick me. To which Goodwife Whaples said to the child, You must not

speak against Goodwife Ayres, she comes in love to see you. While the said Ayres was there the child seemed indifferent well and fell asleep. The said Ayres said, She will be well again I hope. The same Tuesday at night the child told us both that when Goodwife Ayres was with her alone she asked me, Betty why do you speak so much against me, I will be even with you for it before you die, but if you will say no more of me I will give you a fine lace for your dressing. I, Bethia Kelley, perceiving her whispering with the child, and thinking she promised her something I asked her what it was; the said Ayres answered, A lace for a dressing. The said Ayres departing, the child was more quiet till midnight, and then she brake out afresh as before against Goody Ayres. Moreover, on the same Tuesday the child said, Father, why do you not go to the magistrates and get them to punish Goodwife Ayres. Pray father go to the magistrates, and if I could go myself I would complain to them of her how she misuses me. In this plight she continued till Wednesday night and then died. The last words she spoke was, Goodwife Ayres chokes me, and then she was speechless.

The woman takes oath to all the particulars, except that about the dose of angelica and the first time of the child's crying out.

Taken upon oath by John Kelley and his wife, May 13, 1662, in open court.

D. CLARK, *Secr.*

And here is some testimony taken at the inquest :

I, Joseph Marsh, coming into John Kelley's house on the Tuesday morning after his child was taken sick, I heard her say, Father, bring hither the broad axe or else the narrow axe. Her mother being by, asked her What to do, and she answered, To cut off goody Ayres's head. Then her mother asked her, Why, where is she? and she said, There she comes over the mat. This, I, Joseph Marsh, can safely testify. Moreover, I, Joseph Marsh, can testify that I coming into John Kelley's house, there sat Goody Ayres upon the bed where Betty Kelley lay, and I heard her speak to her, saying, if she would be quiet and hold her tongue and lie still and say no more to her father about her, she would come to-

morrow morning and bring her a brave lace to set upon her dressing. Upon which she replied, saying, Will you, and she said, Yes indeed I will and if I live.

March the 31, '61 [1662]. This, I, Joseph Marsh can safely testify.

Here is the finding of the jury of inquest:

We, whose names are underwritten, were called forth and desired to take notice of the dead child of John Kelley, do hereby testify what we saw as followeth: The child was brought forth and laid upon a form by Goodwife Rescoe and Goodwife Whaples, and the face of it being uncovered, Goodwife Ayres was desired by John Kelley to come up to it and to handle it. The child having purged a little at the mouth, Goodwife Ayres wiped the corner of the child's mouth with a cloth, and then she was desired to turn up the sleeve of the arm, and she did endeavor to do it, but the sleeve being somewhat strait she could not well do it. Then John Kelley himself ripped up both the sleeves of the arms, and upon the backside of both the arms, from the elbow to the top of the shoulders were black and blue, as if they had been bruised or beaten. After this, the child was turned over upon the right side and so upon the belly, and then there came such a scent from the corpse as that it caused some to depart the room, as Gregory Wolterton and George Grave. Then the child being turned again and put into the coffin, John Kelley desired them to come into the room again to see the child's face, and then we saw upon the right cheek of the child's face a reddish tawny great spôt, which covered a great part of the cheek, it being on the side next to Goodwife Ayres where she stood.

This spot or blotch was not seen before the child was turned, and the arms of the child did appear to be very limber in the handling of them.

GREGORY WOLTERTON,
THOMAS BULL,
JOSEPH NASH,

The mark of THOS. CATLINGE,
NATH. WILLETT,
GEORGE GRAVE.

There was at this time no physician or surgeon residing in Hartford, and Rosseter seems to have been sent for to come up from Guilford and aid in the investigation. With him was joined William Pitkin, then schoolmaster in Hartford, who ap-

parently acted as a kind of prosecuting attorney. Thirty years later Pitkin did himself honor by assisting to save the life of Mercy Desborough, who had been convicted at Fairfield of witchcraft and sentenced to be hanged; but at this time he was a believer in the reality of witchcraft, for he was one of the jury upon the trial of Mary Sanford for that crime June 13, 1662, and concurred in the verdict of guilty brought in against her.

The report of the autopsy which follows is from the original in Rosseter's handwriting. It is filed, Mr. Rosseters and Mr. Pitkins observations about Kelleys child, and is attested by Daniel Clark, secretary of the colony, as having been testified upon oath before the magistrates by Mr. Rosseter and Mr. Pitkin, March 31, 1662.

All these 6 particulars underwritten I judge preternatural:

Upon the opening of John Kelley's child at the grave I observed,

1. The whole body, the musculous parts, nerves and joints were all pliable, without any stiffness or contraction, the gullet only excepted. Experience of dead bodies renders such symptoms unusual.

2. From the costal ribs to the bottom of the belly in the whole latitude of the womb, both the scarf skin and the whole skin with the enveloping or covering flesh had a deep blue tincture, when the inward part thereof was fresh, and the bowels under it in true order, without any discoverable peccancy to cause such an effect or symptom.

3. No quantity or appearance of blood was in either venter or cavity as belly or breast, but in the throat only at the very swallow, where was a large quantity as that part could well contain, both fresh and fluid, no way congealed or clodded, as it comes from a vein opened, that I stroke it out with my finger as water.

4. There was the appearance of pure fresh blood in the backside of the arm, affecting the skin as blood itself without bruising or congealing.

5. The bladder of gall was all broken and curded, without any tincture in the adjacent parts.

6. The gullet or swallow was contracted, like a hard fish bone, that hardly a large pease could be forced through.

BR : ROSSETER.

Rosseter evidently was predisposed to attribute the death of Elizabeth Kelley to preternatural causes. Had he been skeptical on the subject of witchcraft he might have attributed some of the appearances in his report to incipient decomposition. The child died Wednesday, March 26th, and the dissection was made on Monday, the 31st.

This is the earliest *post-mortem* in New England of which we have an official account.* A little more than a year later, that is to say in July, 1663, there was held in Hartford another autopsy, this time on the body of Rev. Samuel Stone, who died on the 20th of that month. I think we are safe in saying that this examination was also made by Rosseter. Mr. Stone had been much out of health for several years, † and that Rosseter had prescribed for him has already been mentioned. All that we know about the case is contained in this sentence in his Life, by Cotton Mather :

As for Mr. Stone, if it were *metaphorically* true (what they *proverbially* said) of Beza, that *he had no gall*, the physicians that opened him after his death found it *literally* true in this worthy man. *Magnalia*, Book iii., chap. xvi., § 8.

But there had been in New England earlier examinations *post-mortem* than those mentioned above. The author last cited, relating the death of the three children of Rev. Samuel Danforth by an epidemic of what was perhaps diphtheria, tells us that

In December, 1659, the (until then unknown) malady of *bladders in the windpipe* invaded and removed many children; by opening of one of them the malady and remedy (too late

* I have met with several early instances of the examination of the bodies of beasts, to ascertain the cause of death. Here is one under date of July 2, 1650 : In a suit about an ox which it was claimed had been overwrought, Edward Parker testified upon oath, that he flayed the ox and opened him and took out his bowells. The heart was full of streaks of blood thick from top to bottom; he apprehended it was broke. The liver and lungs were swelled, he apprehended from over-straining. The flesh of the ox was waterish, as flesh that is over-heat : the liver somewhat decayed, full of black blood, but that might be so far decayed in the time of his being ill.—*New Haven MS. Town Records*, ii. 29.

† Coll. Conn. Hist. Soc., ii. 74, 76.

for very many) were discovered. *Magnalia*, Book iv, chap. iii, § 7.

And Winthrop, in his *History of New England*, writing under the date of September, 1639, says

At the court of assistants, one Marmaduke Percy, of Salem, was arraigned for the death of one [blank] his apprentice. . . . The boy was ill disposed, and his master gave him unreasonable correction and used him ill in his diet. After the boy gate a bruise on his head, so as there appeared a fracture in his skull, being dissected after his death. *Winthrop*, i, p. 384, ed. of 1853.

The *Massachusetts Colonial Records*, i., 269, 283, 286, give the master's name as Pierce, but do not refer to the dissection.

I have been indebted to the kindness of General Rush C. Hawkins, of New York, and to that of Mr. John Carter Brown, of Providence, R. I., for the use of papers without which the foregoing article could not have been written.

THE PRESIDENT'S ADDRESS.

THE BEGINNING AND GROWTH OF SANITARY
LEGISLATION IN CONNECTICUT.

PRESIDENT'S ADDRESS.

THE BEGINNING AND GROWTH OF SANITARY LEGISLATION IN CONNECTICUT.

A distinguished citizen of New England, still living and known to us all as physician, philosopher and poet, Oliver Wendell Holmes, has said: "The state of medicine is an index of the civilization of an age and country." It would be therefore, in some degree, a measure of our progress in civilization during the century of the existence of this Society, to contrast "the state of medicine" as it was one hundred years ago with what it is to-day. By the term "medicine," he meant its science and art in the broadest signification, as applied to the treatment of disease, both therapeutic and prophylactic, both curative and preventive.

It is not my purpose, however, at this time to attempt to cover so broad a field. The conventional limit of the hour allowed me would not suffice for the just presentation of an enquiry so comprehensive.

The theme I have chosen to present to you to-day is,

THE BEGINNING AND GROWTH OF SANITARY LEGISLATION IN CONNECTICUT.

This is, however, so intimately associated with the practice of medicine and with the current condition of public health, that an investigation of one necessarily involves some consideration of the others. In the definition of medicine just given hygiene is included. But if we give it a more limited signification and one more in accordance with the popular understanding of it, it will appear that hygiene and medicine occupy different positions in social science. Hygiene and

medicine are each the conservators of health, ministering their offices from opposite relations to it. Hygiene is the guardian angel protecting and preserving from danger; while medicine is the good Samaritan healing and restoring those whose health is broken or impaired.

Hygiene is the greater—being always in demand. Her services are as important to the ill, as to the well.

The well have no use for medicine

The science and art of hygiene pertain not only to the habits of persons, but also to their surroundings and environment.

Like medicine the science of hygiene depends upon our knowledge of the laws of nature. Hence it is progressive and is necessarily modified and changed from time to time with the acquisition of new knowledge and the development of new facts.

In order, therefore, to get a good perspective view of the rise and progress of public hygiene in Connecticut, it is necessary that you should have in your mind's eye some distinct impression, some well defined picture, of the state of medical science in old Colonial times, of the diseases which were then prevalent, of the manner of life of the people and of whatever external influences relating to the public health were predominant. It is scarcely less important to understand the public mind, the practical thought of those times, in regard to sickness and the causes and prevention of sickness.

Essential as these are to a clear understanding of our subject, still I can only briefly refer to them.

In those early times the practice of medicine was in very great degree empirical. What little claims to science it possessed were founded on the knowledge of anatomy, which was perhaps more advanced than any other department of medicine, and upon some few discoveries in physiology, the most important of which was the circulation of the blood, which Harvey had but just announced. In pathology almost nothing was known. It was not until more than a century after the landing of the Pilgrims on Plymouth Rock that the then most brilliant light in medicine, the distinguished Morgagni, gave

to the world the result of his personal investigations in a work which began an era of steady progress in pathology and practical medicine, which has proceeded with cumulative results to the present time. Chemistry had but recently been rescued from the alchemist and had made but little progress in its practical application to the healing art.

Percussion and auscultation as a means of diagnosis were not understood by our medical ancestors of that day. Jenner had not yet announced to the world his great discovery of vaccination, the greatest boon that medical science has yet conferred upon mankind. The theories of disease and its processes were speculative and conflicting. The doctrine of the humoralists, and of the solidists, the Brunonian theory of stimulation and Cullen's teaching of nervous sympathy and irritability, were among the speculative questions still debated among the learned. But the physicians of those days were not learned—not greatly given to book lore. They were eminently practical men. Libraries were few. Books were scarce, medical colleges and hospitals were rarer still, medical journals were not. The freshet of medical literature which now overflows our offices had not yet begun. There was no printing press in Connecticut till the end of the first century of its history. American medical literature at "the beginning of the Revolutionary War consisted of one book (a treatise on fractures, by Dr. Jones), three reprints and about twenty pamphlets." The earliest separate medical work was entitled, "Cases and Observations by the Medical Society of New Haven County" (New Haven, 1788).*

The practitioners of those times, however, were not unskillful in the treatment of disease; they used the means they had with judgment and a good measure of success. They had been trained in a school which is now too much neglected—the school of personal observation. They studied disease with their preceptor, at the bedside of his patients. They had no stethoscope, no sphygmograph, no ophthalmoscope, no clinical thermometer, but they made their diagnoses and their prognoses by the acuteness of their well-trained senses. They were self-reliant and practical. They could interpret symp-

* Baa's History of Medicine, p. 826.

toms with as much precision as the practitioners of the present day. It may even be a question whether the abundance of medical literature of our times and the much reading and consulting of authorities, has not in some degree impaired our powers of observation and weakened our confidence in our own judgment: whether or not those conditions which we can recognize with our instruments of precision and our chemical tests, have not monopolized our attention and diverted us from the careful study of the pathological processes in the varying stages of active disease, as manifested in the secretions of the various organs and their functional activity, which our medical forefathers examined so intently. With so much gain has there not also been a little loss?

The diseases most prevalent one hundred years ago were not essentially different in character from those of the present day. They were mostly known by the same names. They had dysentery or bloody flux, small pox, yellow fever, intermittent and remittent fevers, or as they called them, fever and ague, measles and scarlet fever, and lung fever, the throat plague or angina maligna, which there is good reason to believe was the same as diphtheria of the present day. But there was a difference, in that these diseases were more frequent, more fatal, and occurred oftener in epidemic form.

At that period and up to quite a recent date, sanitary science as it now exists was unknown. The agency of what are now called unsanitary conditions, in their influence upon health, were not publicly recognized. There were good housekeepers in those days, most excellent women, who prided themselves on the cleanliness and attractive neatness of their homes.

There were thrifty farmers whose barns and outhouses were examples of orderly and systematic management. But they were so for their own comfort, or for appearance sake, or for economical reasons, not because such care was supposed to have any marked influence upon the public health.

The relative disposition of the stables, the cow-yard, and even the hog-pen, with regard to the farm-house, the residence of the family, was usually planned with more regard to

convenience in the care of such domestic animals than to any other consideration.

There are even yet to be found within the borders of our State instances of wells within the enclosure of the barn-yard, and still other instances of wells, flanked on either side with a privy vault and a cess-pool. In such fashion have the steady habits of our ancestors been maintained even unto the present generation.

The term "filth disease," of which we now hear so much, had not yet been spoken among them.

Errors of diet, catching cold and contagion were the three prominent influences by which, through human agency, sickness was incurred.

All illnesses which could not be properly attributed to this very limited etiology, were by common belief the mysterious dispensations of an overruling Providence.

It must be regarded as remarkable, that a people who attempted to base their civil, moral and religious government so exclusively upon the precepts of the Bible, should have so overlooked the laws of public hygiene as laid down in the Mosaic writings.

The entire disregard of many influences and conditions which we now know to be so potent and active in spreading disease, and in increasing the terrors of a dangerous epidemic, was doubtless a very important factor in their afflictions. Whatever bad effects might have resulted from this neglect was enhanced in no small degree by the social habits of the times. They were ignorant of the infectious nature of several of the prevalent diseases. In respect to these no precautions were observed in their intercourse with each other. Although distinctions of rank were far more rigidly observed than in the present, they occasioned no hindrance to general intercourse among the people. They felt the mutual dependence of settlers in a new country, and they willingly profited by the helpfulness which was cheerfully rendered to each other.

A whole plantation felt an active sympathy for a family afflicted with sickness, and volunteer nurses were seldom wanting to give personal help on such occasions.

It is quite true that our ancestors were not a festive people;

life seemed to them too serious to be wasted in convivial gatherings, or for the mere purpose of social enjoyment. A writer in the *Connecticut Journal* of March 18th, 1789, says that "about 1780 a dancing master came into New Haven to instruct in his profession, and universal clamor was immediately raised against him—orthodoxy and morals were greatly endangered, and of course the civil and ecclesiastical arm was stretched forth to repress this teacher of such destructive arts, * * * and he was driven out."

But husking-bees, house-raising, quilting-parties and other similar opportunities of mutual help were frequent, and the sufficient cause of promiscuous gatherings. On Sundays, too, attendance upon public worship was a duty in which all of every rank and condition were expected to participate. Hence, although population was sparse, social intercourse was more intimate than in recent times. And the spread of contagion was almost uncared for, except that of small pox.

Such is a brief outline of the condition of the people of Connecticut during their Colonial history and for a considerable period after.

With a sanitary creed on etiology so short that it contained but four articles of belief, to wit: 1. Dietetic indiscretions; 2. Exposure to the elements; 3. Contagion, and, 4. The Anger of God, there seemed very little to be accomplished by human legislation. Respecting the first two causes, legislative control was obviously impracticable—concerning the fourth, to have suggested human legislation would have been blasphemous and have outraged every sentiment of reverence. There remained only contagion as a suitable subject of legislative action.

And it is accordingly the fact, that for one hundred and seventy years from the time of the first settlement in Connecticut all the direct legislation for the protection and maintenance of the public health, had in view only the guarding of the people from exposure to contagion. The special contagion which gave the most anxiety, was that of small pox. Small pox was their particular terror.

In our times we can form no adequate conception of their fears. They had not the protection which vaccination affords.

Nor were the deaths resulting from this disease the full measure of its dreaded evils. The survivors were in many instances only spared to be life long sufferers from many physical afflictions which more or less greatly marred the enjoyment of life and shortened its duration.

The great English historian, Macauley, eloquently compares the evils of small pox in England toward the end of the 17th century with the ravages of the plague. He gave it the bad pre-eminence of calling it "the most terrible of all the ministers of death." "The havoc of the plague," he said, "had been far more rapid; but the plague had visited our shores only once or twice within living memory. The small pox was always present, filling the churchyards with corpses, leaving in those whose lives it spared the hideous traces of its power, turning the babe into a changeling, at which the mother shuddered, and making the eyes and cheeks of the betrothed maiden objects of terror to the lover."*

Recognizing as they did, that it was by contagion disease was communicated from one to another, it was the most reasonable and logical inference that safety depended upon avoiding contagion, and that mutual protection required persons who were afflicted with contagious diseases to be kept separate and apart.

It was very natural that the first expression of an effort to control or restrict the dangers from this source by legislation should be applied, not to their own people, but rather to those without their borders, who might bring contagion to them. Accordingly the earliest legislation looking directly to the protection of the public health in Connecticut, which I find, was an act of the General Assembly passed in March, 1683, at a session held in Hartford.

That body of men, whose piety and trust in a Divine Ruler were conspicuous in all their proceedings, and who recognized the hand of God in every important event, incorporated their faith in the language of their statutes, as follows:

"This court understanding that the hand of God has gone out against the people at New Netherlands by pestilential infections, do therefore prohibit all persons for coming from

* History of England, vol. iv, p. 530.

any of those infectious places into this Colony and amongst our people, until the assistants are informed and satisfied that the distemper is allayed; and that whoever breaks this order shall pay five pound fine to the public Treasury.

“And if any person shall bring a vessel from thence and land their men or goods in any harbor in this Colony the Master of the vessel shall forfeit Ten pounds to the public Treasury.” And the law further provides that whoever of our people shall go aboard any such vessel shall be fined five pounds for each offence.*

This appears to have been the first public Act, passed by the legally constituted law making power, to establish a quarantine for the protection of the people against the invasion of sickness.

We have at this time no trustworthy information of the nature of the disease which so afflicted the people of New Netherlands.

What little testimony has come down to us about those early experiences of our forefathers, respecting sickness, makes the probabilities very strong that the dangerous fevers from which they suffered so much were sometimes of a malarial origin, of graver type than the simple fever and ague.

Sydenham wrote that from 1661 to 1665 ague was the most fatal disease in England.† The brief and somewhat vague accounts which have reached us lead us to the belief that the malarial fevers of those times among the Colonists were far more fatal than they are among us now.

With our present knowledge of the part contagion plays in the spread of disease, such legislation seems only an ordinary action; but again it should be remembered that in those times the question of contagion was still unsettled and much in dispute. Even so late as the end of the last century, Noah Webster, the great lexicographer, published two volumes on Epidemics and Pestilential Diseases, chiefly with a view to prove that they were not contagious but caused by meteorological phenomena connected with earthquakes, cyclones, comets, etc.

* See Col. Rec. 1636-65 p. 398.

† Baas's History of Medicine, p. 549.

And still later, Dr. Nathaniel Potter read to the Medical and Chirurgical Faculty of Maryland an exhaustive treatise of one hundred and seventeen printed pages on contagion,* which he concluded in these words: "The votaries of that medical heresy have sought their phantom in every clime and found it in none. It has been courted by them with an enthusiasm worthy of a better cause; but in vain. It is, they know not what; it comes, they know not whence; and goes, they know not where. Pursue it as they may, it must still elude their grasp, vanish with circumambient air, and like the baseless fabrick of a vision, leave not a rack behind."

With such discordant views respecting the fact of contagion it may well be doubted if even this attempt at self-protection was carried by a unanimous sentiment.

The foregoing legislation was evidently to meet an emergency, and does not seem to have had force longer than until "the Assistants shall be satisfied that the distemper at New Netherlands is allayed."

In those early days of the Colonies, that was the usual mode of legislating for public safety from epidemics. Because, only a few years after, or in 1666, no system of quarantine laws existing, the court at the May session in Hartford has left the following record: "This Court doth command and leave it with ye Magistrates to settle some course to prevent infection that may happen to the inhabitants in this Colony by vessels that may come into any of our ports."†

The early legislation in Connecticut took place no faster than experience evinced its necessity. Frequently it was to provide for an immediate exigency, but nothing more. Its permanent and more enduring form was the result of a normal and healthy growth, the product of the needs of the people.

While the foregoing law was the first law enacted, with direct intent to protect the public health, still at even an earlier date we find, in 1644, a law enacted which at the present time is almost universal in civilized countries, and is regarded by

* A Memoir on Contagion more especially as it respects Yellow Fever, read on June 3, 1817.

† Col. Rec. 1665-77, p. 37.

all practical sanitarians as a fundamental and essential element in the scientific administration of public hygiene. I mean a law providing for the Registration of Births, Marriages and Deaths.

Like our present law, the town clerk was made the Registrar and it required parents, masters, executors and administrators respectively to bring to the Registrar the names of such persons belonging to them as either shall be born or die.

And every married man to bring the time of his marriage, sufficiently proved either by certificate of him that married them, or other legal proof, to the Registrar, within one month after each birth, death or marriage—under penalties increasing with every month delayed.

There was this improvement, too, on our present law, that the Registrar of every town shall, as far as they can come to it, give an account of all such as neglect, to the grand jury; who shall make presentment thereof, in that county where the neglect is; which forfeiture shall be paid to the town Treasury.

Our present law makes no officer directly responsible for its enforcement.

This law of registration with some variations of detail has continued on the Statutes from 1644 uninterruptedly until the present time.

Another bit of legislation is found in Governor Ludlow's code of 1650, which was unquestionably enacted for sanitary reasons. It reads as follows: "No person under the age of twenty years, nor any other that hath not already accustomed himself to the use thereof, shall take any Tobako until he hath brought a certificate under the hands of some who are approved for knowledge and skill in physick, that it is useful for him, and also that he hath received a license from the Court for the same."

Those who had a license were, for the sake of example, prohibited, under the penalty of sixpence, from taking "any Tobakko publickly in the street, highway or any barn-yards, or upon training-days in any open places."

It is the matured and well considered opinion of your speaker that this statute should be revived.

Although it was a logical consequence of a belief in contagion to attempt the exclusion of contagious diseases by quarantine laws, still the crude methods adopted were so unscientific, and consequently so unsuccessful in practice, that they had won but little confidence.

In sober truth, the real reliance of the people in those early times was upon prayer and fasting. They believed that those pious acts were the only trustworthy means of averting pestilences.

The proclamations of the General Court, for fast-days and thanksgiving days, give convincing proof of the little hope they had that any human effort could prevent or restrict the terrible epidemics which so frequently afflicted them.

Believing as they most devoutly did, that such afflictions were sent upon them purposely, by the Divine Ruler of the Universe, in punishment of their sins, it would doubtless have been considered evidence of a rebellious spirit to have proposed to resist the edicts of the Almighty by human legislation.

In witness of the prevailing sentiment of the legislators of those times, let me quote from a proclamation issued by the General Assembly in October, 1683. Which year, Noah Webster says, "was remarkable for general sickness in Connecticut, and in some places unusual mortality," and that some towns suffered by excessive rains, the General Court held in October at Hartford, instead of proclaiming a day of Thanksgiving as in the previous year, ordered in the following language of extreme humility and trustfulness that a day of fasting and prayer be observed :

WHEREAS, it is evident to all who observe the footsteps of Divine providence that the dispensation of God towards his poore wilderness people have been very solempne, awfull and speaking for many years past, and particularly towards ourselves in this colony this present yeare, by reason of generall sickness in most places, and more than ordinary mortality in some, as also excessive raines and floods in several plantations, shortening us in our outward enjoyments ; and considering also the holy hand of God in bereaving so many churches and congregations of a settled ministry, whereby they are

left, and have been some of them long, as sheep without a shepherd, as if the Lord intended for our sins to quench the light of Isreall, viz: our great unprofitableness, impenetancy and great unreformedness under convincing lights and awakening judgements, with too general neglect of great salvation, and many other sins abounding among us; we have great cause to fear, the Lord, who is a jealous God in the midst of his people, may come forth against us in farther tokens of his displeasure than ever yet; therefore this court doth order and appoynt that the last Wednesday in November next be solemnly kept throughout this colony, a day of fasting and prayer to humble and afflict our soules before the Lord and beg mercy in Christ Jesus that he would see our wayes and heall us for his own Sovereigne grace, etc.*

As illustrating the change in sentiment, or possibly, only the mode of expression, which has occurred since those days, it may not be out of place to quote the last proclamation for a Fast Day, issued just at the termination of the most fatal epidemic which has visited the people of Connecticut in more than a century.

FAST DAY PROCLAMATION.

STATE OF CONNECTICUT,

BY HIS EXCELLENCY

MORGAN G. BULKELEY,

GOVERNOR.

A PROCLAMATION.

In accordance with custom, I hereby appoint Friday, the fifteenth day of April next, as a day of fasting and prayer, and I recommend that this day be observed with suitable religious exercises, seeking thereby the favor of Almighty God that peace and prosperity may be continued unto this people.

* 1683 C. R., p. 131.

Given under my hand, and seal of the state, at the capitol,
 in Hartford this twenty-fourth day of March in
 { L. S. } the year of our Lord one thousand eight hundred
 and ninety-two, and of the independence of the
 United States the one hundred and sixteenth.

MORGAN G. BULKELEY.

By His Excellency's command,

R. JAY WALSH,
 Secretary of State.

The businesslike official tone of this document in such strong contrast with one of similar import two hundred years before is very expressive, not, as might at first be thought, of a waning faith in the power and mercy of God, but rather of more enlightened knowledge of His dealings with His creatures, and of a recognition of the precept that God helps those who help themselves. The laws of God are nature's laws, and man has been endowed with intelligence to understand them, and has learned by much experience that he cannot by prayers and invocations of Deity be exempted from the penalties of their violation.

After the law of 1666, conferring upon magistrates the authority to prevent infection from being introduced from abroad, there was no other sanitary enactment until 1702.

In May of that year was adopted an Act entitled:

An Act for the better Preventing of the spreading of Infectious sicknesses.

The preamble states the frequent danger of introducing contagious diseases by ships and other vessels, and peremptorily prohibits the commander of any ship in which there shall have been any small pox or other contagious disease, or which shall have come from any place where any such sickness is epidemic and prevailing, from bringing his ship within the space of half a mile next unto any pier, wharf or landing place without a license, nor may he permit any of his passengers or seamen to be landed under penalty of twenty pounds.

And it further provides that if any one from such a ship shall come on shore, any assistant or justice of the peace may

send such persons with their clothing and bedding on board such vessel again, or confine them to such place or places as shall be judged most suitable for preventing of infection.

And it still further provided: "That when and so often as it shall please God to visit any of our neighbour Provinces or Colonies or any town or plantation within this Colony or elsewhere, * * * with pestilential or contagious sickness the town authorities shall provide a house suitably furnished for the care of persons who shall necessarily come from such infected places, to prevent the spread of contagion.

The foregoing law seems to have been only temporary at the time it was passed, for in the next year by special act it was continued in force. When it ceased to be valid does not appear, and it probably terminated by limitation.

In 1711 we find the next instance of legislation against infectious diseases in an act entitled: An Act providing in case of sickness. Passed at the May Session at Hartford.

It provides that persons coming from abroad, or from any town within the colony, who may have had the small pox or other contagious diseases, or who have in any way been exposed to them, shall be provided by the selectmen with separate houses, and with nurses, tendance and whatever may be necessary for them at their own expense if able, or otherwise at public charge.

And if need be, justices of the peace may issue a warrant to the sheriff, in her Majesties name "to impress and take up convenient housing, lodging, nurses, tendance, and other necessities for the accommodation of the sick."

It also provides that seamen or passengers arriving on any vessel on which there is small pox or other contagious sickness or coming from any place in which such sickness prevails, may not come on shore, nor may such vessel be visited by the people.

And the Governor and council are fully empowered "to take any further action they may think fit to prevent the spreading of such infection."

The same act imposes a fine not exceeding five pounds upon all who disobey this law, and upon nurses and others who may refuse to attend such sick persons.

The laws of 1702 and 1711 are an advance upon the one of 1662 by so much that they make suitable provision for the isolation and care of persons coming among them sick with contagious diseases, specifying in detail the mode of procedure, and how the cost shall be defrayed in all cases

A period now of several years occurs after 1711, when no sanitary legislative action was taken.

An interesting feature of sanitary administration during the eighteenth century, is found in the records of the doings of the Governor and Council, upon whom, as before stated, was delegated full and unlimited authority to do whatever they thought fit to restrict the spread of infectious diseases.

It sometimes happened that the experience which they acquired in their conflicts with contagion led to some new statute by the General Assembly.

I quote from the records a few instances of their decisive and peremptory action during the time from 1714 to '21, when small pox was prevalent in many parts of the country.

At a meeting of the Governor and Council in December, 1714, called together upon information that Jere Wilson had lately arrived in a sloop from New York, where, he said, he and his boy had been in a house where a person was broken out with the small pox.

Ordered, That a warrant be directed to the sheriff to impress a small farm-house, lately in the occupation of John Holmes, for the entertainment of the said Wilson and his boy, and such nurses, tendance and other necessities as shall be requisite for their accommodation, according to such directions as they shall receive from the selectmen, and the said Wilson and boy are hereby ordered forthwith to repair to the said house, there to remain until after the next change of the moon; and they are by no means to go into any other house or company whatsoever during the time above limited, as they will answer the penalty of the law.

But Wilson proved to be a refractory prisoner, and in the night broke from his place of confinement and visited his family, in which were several children.

Upon being told of which, the Governor and Council again convened, December 6th, and directed that some fit person

shall be set to superintend and see that the order of law be duly attended. To which service he shall be sworn to be faithful, and shall be allowed a meet recompense by said Wilson, and further orders were given in case it be necessary, to impress men, and employ them as a guard upon the said house, till it shall please God the danger may be over.

On another similar occasion, on July 4, 1716, a person with small pox having arrived at Saybrook on a sloop from Antigua, it was ordered that the justices do forthwith, by removing a family or otherwise, provide such a house as they shall judge convenient, and impress tendance, etc.

On some of the occasions calling for special orders from the Governor and Council, while a most commendable prudence and caution was maintained concerning the safety of their own people, there is some reason for a suspicion that in the following order there was no waste of anxiety about a neighboring Colony :

Ordered, That Mr. King and his apprentice be discharged from their confinement on board the sloop (on which was a case of small pox), provided they cleanse themselves thoroughly, and immediately take passage for Long Island, where they belong, and do not come on shore in the town before their departure.

MEANS OF DISINFECTION.

April 23, 1719.

Ordered, Men to wash themselves at the shoar and cut off their hair, bury their infected cloaths and put on fresh cloaths provided for them. These men had had small pox before.

May 19, 1721.

Meeting of Governor and Council at Hartford.

A letter was read informing the arrival after thirty days' passage of a sloop from Barbadoes where the small pox prevails, having on board passengers, negroes and cotton wool.

Ordered, That the cotton wool be buried under ground, well covered with earth ; that the passengers may go on shoar and air themselves and their cloaths on Powder Island. And that such as have had the disease shall prepare themselves by washing, airing, for libertie to remove from said island without danger of infecting any with that distemper.

Query: Why did they not burn the cotton?

To this question we find the answer in the writings of Dr. Richard Mead, a cotemporary of those times, and the most distinguished and eminent authority of his day. He wrote concerning similar conditions as follows:

"All the goods of the houses in which were contagious disease should be buried deep under ground. This I prefer to burning them; because some infection particles may possibly be dispersed by the smoke through the neighborhood."

July 14, 1721. Governor and Council at New London.

Captain J. Allyn arrived home at Wethersfield on his sloop from Boston on Saturday night. On Monday night he broke out with small pox.

His family were removed to a house provided for them. Tenders were provided for him, and his men confined on board the vessel.

These proceedings were approved by the Governor and Council, and among other precautions it was ordered that the doors and windows of Mr. Allyn's house next the street and at each end be nailed up, so as to prevent anything being conveyed into or out of the house, on the side next the highway, or towards the neighboring houses.

That the tenders on the sick shall convey whatever be taken out of the sick rooms by some back way and buried or covered over with dirt, to prevent dilating of any ill scent in the air.

Also the Gunner at the fort at New London was directed to constantly keep one man on duty there, who shall stop all vessels below the fort, and not suffer any to come on shore from them, on account of the prevalence of small pox at Boston at this time, with which place there was much communication by coasting vessels.

Finally, at this meeting, in view of the great danger that small pox might be brought by pedlars in their packs and fardels, it was

Resolved, That a proclamation be issued instructing officials to seize all such packs as are brought by them into this Colony, and hold them until the owners can give a satisfactory account of them.

In the same year, in October, after this proclamation, the General Assembly took action as follows:

WHEREAS, Notwithstanding the proclamation issued out by the Governor and Council, for the prevention of peddlers and petty chapmen bringing in said distemper into this government, evil-minded persons have carried goods from time to time, and have vended them in many places of this Colony, to the great hazard of his Majesty's subjects, therefore be it enacted, that any peddler, hawker, or petty chapman that useth the trade of carrying goods from house to house to sell shall pay a fine of £10; and the right of appeal after judgment was denied. This law to continue in force three years and no longer.

It expired by limitation, but was renewed in 1728.

In like manner an order of the Governor and Council that the dogs belonging to a family sick with small pox should be killed, was followed by a law in May, 1732, requiring that in every town and place where any infectious disease shall break out, all owners of dogs shall cause them to be killed, to prevent the spread of infection, and making it lawful for any one to kill such dogs.

In this year, 1732, sanitary legislation again received some attention, but only in the way of amending existing laws to make them more effective in accomplishing the objects proposed, viz.: the prevention of contagion, by isolation and the better care of the sick. It was provided that if sufficient nurses and tenders cannot be procured in the same town they may be impressed from other towns, and committing such as refuse to serve "to the common goal, there to remain till they better conform themselves, or the occasion of impressing shall be over."

The additional caution was also required that every householder or master of a vessel in which there is any real or suspected contagious sickness, shall hoist a white cloth two feet square or more, on a pole ten feet high, between the house and the highway, or a similar flag in the shrouds of the vessel, which signals shall remain exposed until discharged by order of the town authorities.

We find no additional legislation pertaining to health for

the ensuing twenty years. In 1752 at the May session it was enacted

“That if any person shall bring into any town, from any place infected with small pox or any other mortal, contagious disease, any goods, wares or merchandise, shall suffer a fine of £20.” And it also makes it the duty of the selectmen to examine and judge if it be necessary to *air* such goods, and, if necessary, to give a certificate when they have been suitably aired.

This is the first instance of statutory authority for disinfection in Connecticut. The agent employed was taken direct from Nature’s laboratory, the common air, than which there is none more universal, and few more effective.

In 1756 the laws were further amended by making it the duty of ship masters, coming from any place where small pox or other contagious sickness is prevalent, forthwith to give information to the selectmen of the town where such vessel shall first arrive, and forbidding any passengers or others to go on shore, before such notification, under heavy penalties.

In this act we have the the first law enacted in the Colony making the notification of contagious diseases a duty; although the signals required by the laws of twenty-four years before were in some sense a notification, and probably the utility of that method led to the more direct and prompt method of personal communication.

In 1760 sanitary legislation took a new direction, but still having in view only the same purpose, the prevention of contagion of small pox.

To appreciate this action it is necessary to mention the reason for it. About forty years before, Lady Mary Wortley Montagu, who had seen the practice in Eastern countries, had made known to the savans of Europe the favorable results of small pox when the disease was artificially induced by inoculation.

Dr. Zabdiel Boylston had the honor of introducing the practice on this Continent, by the inoculation of his own son, in 1721, in Boston.

It is needless to say that a treatment, seemingly so hazardous, met at first with a most determined and vigorous opposition.

The stagnant waters of Colonial medical life were stirred, as they had never been before. The medical profession was as usual divided in opinion, the majority being opposed to it, while, strangely enough, the warmest advocates and defenders of the practice were in the ranks of the clergy. The Rev. Cotton Mather, who won such unenviable notoriety in connection with the "Salem witches," first called the attention of the physicians to the benefits of inoculation, which were communicated to him by his European correspondents. But, he has written that "he was informed of it by a Garamanta slave long before he knew that any European or Asiatic had the least acquaintance with it." And that he had met with a considerable number of these Africans who all agreed in one story.

That in their country grandy-many dy of the small pox; but now they learn this way: people take juice of small pox, and cutty skin, and put in a drop; then by 'nd by a little sicky, sicky; and nobody dy of it, and nobody have small pox any more.

So great was the popular excitement against the new operation that it is recorded that "Dr. Boylston was threatened with hanging by the populace, and on one occasion was compelled to secrete himself for two weeks in a private place in his house, in order to escape the search of an infuriated mob, excited by the slanders of the newspapers and his medical colleagues."

But inoculation was not to be suppressed in that way. It soon demonstrated its safety and utility; gained in favor, and eventually was practiced through all the American Colonies.

But its usefulness was limited to those only who underwent the operation, while to all others they were a source of danger.

Hence by contributing to the spread of small pox contagion, it was possibly a cause of greater mortality than would otherwise have occurred.

But after the practice had been going on for nearly forty years, restricted only by the discretion and prudence of those immediately concerned, the Connecticut Legislature, in 1760, enacted a law prohibiting the inoculation for small pox, in

any town, except with the written consent of the major part of the civil authority and the selectmen.

Also, making it their duty to designate the place where it may be done, and to fix all the conditions and restrictions under which the treatment may be carried on.

This law was passed in March, to continue in effect "until the first day of June next and no longer." Before the expiration of that time, however, the General Assembly enacted, at an adjourned meeting, that it be continued in force until the last day of May the following year.

At the expiration of the year the dread of the danger of this practice seems to have increased, for we find *this* in the statutes of 1761:

"WHEREAS, it is manifest that the infection" (of small pox) "hath spread in many instances from the places where" (innoculation) "has been carried on, which hath greatly terrified many of the inhabitants of this Colony, and if such practice should be continued would much endanger the people, and create great disquietude.

"Be it therefore enacted, etc., That no person or persons whatsoever shall after the first day of June next, presume to set up or carry on the practice of inoculation in this Colony."

Such was the public sentiment on this subject, that the law permitted persons to be adjudged guilty although the complainant shall not be able to produce any other proof than to render it probable; unless the accused declare himself innocent under oath.

A tentative method of testing by experience the value of new laws seems to have been often tried, in those days.

Indeed, this particular act seems to have had a long period of probation.

It was renewed and confirmed no less than twelve times in the ten years to 1769; when it was declared to be in force for the future.

But although the practice was absolutely prohibited for so many years by yearly legislation, yet the recognized value of the practice during epidemics led to a renewal in 1777 of it, under such rigid restrictions as the Boards of Health in the towns might impose.

It was continued on the statute books long after it had fallen into disuse, by the discovery of vaccination.

It was probably never repealed, but was simply omitted in the revision of the statutes in 1875, having been absolutely prohibited, or allowed only under most careful regulations for more than one hundred years.

We now pass over a period of thirty-five years, during which the minds of men were taken up with the stirring events of the Revolutionary war and its consequences.

In 1795 contagious diseases again became the subject of further legislation. And the seed of our present system of sanitary administration was planted.

The new act at the time gave unlimited power to the civil authority and the selectmen of any town, wherever contagious diseases shall be prevalent, to give, make, and publish rules, orders, and regulations, for preserving the inhabitants therefrom. Any person violating the said rules were liable to a penalty to be recovered before any assistant or justice of the peace, and no appeal was allowed from the judgment rendered.

It will be observed that this authority was only to be exercised whenever contagious diseases shall be prevalent; not at other times.

The full idea of a Board of Health in constant authority, to guard the public, had not yet entered the legislative mind. It took another ten years for the germ to develop and grow to that result. It was not until 1805 that it became a law, that the civil authority and the selectmen in the several towns shall be a Board of Health in their respective towns, with authority, now, not only to prevent the spread of contagion, but also to protect the public from other causes of disease. They were empowered to examine into all nuisances, and such sources of filth as may be injurious to health. Here is the first statutory recognition of the unwholesomeness of filth. And the statute specially refers to certain common sources of danger—as stagnant waters, cellars, drains, common sewers, slaughter-houses, tan-yards, putrid animal or vegetable substances, vessels, scows or boats or any other cause of any nature or kind whatever, and makes it the duty of said Board to cause

to be removed all filth of any kind whatever which shall be found in any of the streets, lanes, wharves, docks or in any other place within the limits of their town, whenever in the judgment of such Board such filth shall endanger the lives or health of the inhabitants.

A law constituting a Board of Health in every town was a great advance on all previous sanitary legislation. But in one special feature of the law, its authors exhibited a practical wisdom, which has been wanting in some recent legislatures. The lawmakers of 1805 had a knowledge born of frequent afflictions, that contagious diseases were spread by contagion, and that non-intercourse with the sick was the only means of prevention known to them. They had no useful acquaintance with disinfectants.

Consistent with their convictions, they enacted a law by which any Board of Health could require every practicing physician in the town to make daily or weekly report of every case of "pestilential or malignant disease occurring in his practice, under a penalty of fifty dollars for neglect."

They evidently had a wholesome belief in the prompt notification of first cases.

In this we have the Notification Act, in its maturity. It was born in 1732 in the form of a little white flag, on a ten-foot pole, or in the shrouds of a vessel.

After a slow growth of more than three score years and ten it reached its highest development in the requirement of prompt and full information to the Board of Health of the presence of contagious disease.

This law in Connecticut anticipated by many years the practice of many older countries. Even England, which has long led the world in the practice of public hygiene, has adopted a similar legislation only so lately as 1889. Since that date so popular and effective has this law become that five-sixths of the population of England have availed themselves of the power of compulsory notification.

Without question it is the key to the control of contagious diseases and epidemics.

For seventy years this law of compulsory notification of contagious diseases was upon the statute books of Connecticut

It was never repealed, but its form was dropped by the commissioners from the revision of 1875, although its essence remains in the power conferred by other statutes; and local Boards of Health have in many towns in the State practically revived the law in the sanitary rules of their own town.

But the law of 1805 did not originate the first Board of Health. The honor of that in Connecticut, belongs not to the State but to the town of New Haven.*

In 1794, in June, an outbreak of yellow fever occurred in New Haven, imported, as was satisfactorily proved, by a sloop from Martinico.

The epidemic resulted in sixty-four deaths. It is believed that this was the last appearance of this disease in Connecticut. While the facts connected with the outbreak proved unquestionably that it was due to fomites on the West India sloop, yet Mr. Webster subsequently endeavored to show that it was the result of local causes, and adduces the following unsanitary conditions as affording sufficient cause for the outbreak.

The disease first appeared in the family of a Mr. Gorham living on Long Wharf. He "had in the month preceding the invasion cleaned a great number of shad, upon the wharf by his door, and thrown the garbage, to the amount of a cart load, perhaps, into the dock.

"The alternate washing of tide, and action of the sun, had rendered the putrefaction of this mass of filth extremely rapid; and there being no current to remove it, the stench became intolerable.

"On the other side of the wharf, a few rods distant, a boat load of clams had been deposited in the mud that the water, during the flux of the tide, might preserve them; but a great part of them were soon spoiled, and added to the fetor of the atmosphere.

"To complete the nuisance, some barrels of damaged pickled codfish had been thrown from a store into the dock, and the whole was left uncovered during the recess of the tide."

Whether the sense of public decency was outraged by this

* Republic of New Haven, p. 241, by C. H. Livermore, Ph.D., 1886.

extreme instance, or whether the arguments of Mr. Webster had aroused fears of another epidemic is now uncertain. But the town records show that in December of that year it was voted in town meeting "That the selectmen chosen this day be a Committee for the purpose of examining all the houses and places where any epidemic sickness has been in this town, the year past, and to inform themselves whether they have been thoroughly cleansed, and whenever they shall find that the cleansing has been in any respect neglected, they are to cause such houses to be thoroughly cleansed."

In this most important field of sanitary work, the sanitary administration in New Haven in 1892 will not compare favorably with that of 1794.

In 1805, through the influence of the local health authorities of New Haven, power was obtained from the Legislature to establish a quarantine for foreign vessels in any town contiguous to navigable waters. The quarantine law then enacted is practically the same as that in force to-day.

The law of 1805 constituting a Board of Health in every town remained in force, without important modification, until 1875, when it was amended by giving permission to add to the Board such reputable resident physicians as it may choose. But the most important improvement was made in 1887, when it was made the duty of the town Boards to elect annually a health officer or a health committee, to whom are given all the powers of the Board.

In a practical way this has proved to be a far more efficient working force than the compound heterogenous body which elects them. The health officer or health committee chosen for special fitness, and charged with a special duty, feels a responsibility seldom experienced by the larger body, who were elected for the performance of quite different functions. Since the appointment of health officers in the towns of Connecticut there has been a marked improvement in the administration of public hygiene, which improvement has not yet reached its best results. It is growing.

It remains to notice the establishment of the State Board of Health, which was brought about chiefly through the influence of our own State Medical Society.

It was only after repeated efforts with the Legislature, and in the face of much opposition, that success was achieved.

Our sister State of Massachusetts was the first to have an organization of this kind, in 1869. While Massachusetts has led all others in originating a State Board, it has also been most conspicuously a leader in the character and quality of its work.

It is sufficient evidence of the utility of State Boards that fourteen States had established them before Connecticut, in 1878, and that now, in 1892, thirty-six States in the Union have working organizations under this title.

The State Board of Connecticut is not endowed with any authority. Its powers, in relation to sanitary administration, are wholly advisory. All mandatory power resides in the local boards.

Its influence has been largely exerted in organizing and directing the executive work of the health officers, in awakening a greater interest and in stimulating more activity among them to improve the hygienic condition of the places under their jurisdiction.

In this hasty review of the health laws of Connecticut their growth seems to have been marked by three stages of progress.

The first stage extended from 1663 to 1732, with the first attempt to exclude immigrants from infected places.

During this time the sole object of legislation was to forbid and prevent unnecessary intercourse with the sick.

The laws were often temporary expedients, of local validity, and enacted only to meet emergencies, and only in force in outbreaks of disease. This was a period of about seventy years.

In 1732 the public notification of the presence of contagion by signals was begun, which idea slowly developed, until in 1805 physicians could be required to give daily information of their contagious cases.

This marked the second period in the progress of health laws, also of about seventy years' duration.

Coincident with the close of this period began the third

stage of legislation, in the inauguration in 1805 of local Boards of Health, which it is true were for many years merely lifeless, torpid bodies, existing only in name and only on rare occasions aroused into activity.

Under the encouraging and stimulating influence of the State Board, these have become much better organized and are yearly doing more and more efficient and satisfactory work.

Public hygiene is not of modern origin. In the Mosaic Scriptures, written more than three thousand years ago, can be found a code of sanitary law of remarkable merit.

Hippocrates, three hundred years before the Christian era, announced some of the fundamental principles of public sanitation.

The ancient Greeks worshipped at the shrine of Hygeia, the goddess of health.

And all along down the ages some effort has been made at times, with more or less success, to preserve and protect the public health. But at no period in the history of the world has it ever attracted the interested attention, on the part of both individuals and governments, that it does at the present time. The investigation of the laws of health in their application to the prevention of disease, is engaging the earnest study of the best scientists of civilized nations.

A great impulse has been given to these pursuits by the progress which has been made in chemistry, and especially in that most modern of all sciences, bacteriology. The great changes which have been made in the practice of hygiene are due almost wholly to the progress which has been made in collateral sciences, by which the causes of disease can be traced to conditions which are largely of man's creation, and subject to his control.

Chemistry and Bacteriology have shown how much the spread of disease is chargeable to our water supply, to the character of the soil upon which we live, to the air we breathe, and upon the disposal of the sewage incident to domestic habitations.

But sanitary legislation is not synonymous with sanitary administration. And Connecticut sanitary laws are by no means an exponent of the sanitary science and practice of the present day.

To find the best results of sanitary work we must go to the monarchical governments of the old countries. As a science, preventive medicine is comparatively new, and has been far more successfully applied in Europe than in America.

In London, one of the largest cities of the world, the death-rate under steadily improving hygienic administration has as steadily diminished for many years.

The average death-rate for the five years previous to 1872 was 23.9 per 1,000 of population, that for five years previous to 1891 was only 19.2; with equally good results numerous other examples might be cited among European cities. But there are no large cities in America with so low a death-rate as some of the largest cities of Europe.

The democratic governments of this country do not appreciate the economic and humane value of sanitary science. They have not yet learned that the best care of public health is only possible by the employment of a high degree of intelligence and well-trained experience on the part of those who undertake it.

The democratic system of annual popular elections of the people's servants of all kinds, and rotation in office as a mode of paying for party services, practically forbids a municipal administration which can develop official intelligence and scientific training.

Almost the only instance in which any approach to this is seen in American cities, is in the fire department. Under the stress of heavy losses by fire, the financial interests of the city business man have compelled the best managed public organization of which an American city can boast. Here the essential elements of good service are found, in careful selection of men, steady employment, advancement for merit, and good wages.

Successful administration of municipal affairs in every department requires to be conducted on the same principles.

In this respect the municipal administration of trans-Atlan-

tic cities makes possible, and almost sure, the good results of State medicine there attained, which in this country are seldom realized because so unscientifically and unskillfully managed.

The time may yet come, even here, when our people may be brought to realize, if even only in a pecuniary way, that it is for the interests, the mere money interests, of governments and municipalities to spend money for such skill and intelligence as will promote public health. For there is nothing more true than the saying of Herbert Spencer in his book on "Education": "The industrial empire will belong to the people who are best nourished, and who are made most capable of resisting the attack of disease."

DISSERTATION.

INTUBATION OF THE LARYNX.

BY FRANCIS D. EDGERTON, M.A., M.D., MIDDLETOWN.

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Having become interested in, and having within the last two years had some practical experience with, intubation of the larynx, I have thought best to bring the subject before this Society, because I have met so many physicians who have not become familiar with the literature of intubation, and others who, though familiar with the literature and how much has been done by others, have considered it altogether beyond their own resources, because of the delicacy and difficulty of the operation itself.

There is perhaps no modern surgical procedure of such distinguished merit that has been brought forward with so little flourish of trumpets—an operation which has gained for itself a place among the profession of all the higher civilized nations and one that will remain at least one of the resources for the relief of a very dangerous condition. The larynx had been a sort of "*mare clausum*" in medicine until within a comparatively few years. The essential principles upon which the possibility of intubation was based had been all recognized when in 1859 Czermak rendered practical the laryngoscope, previously discovered by Garcia. This gave impulse to study and practical experience with the organ, which one would have supposed might have accomplished some successful results in this direction.

According to Dr. Dillon Brown, who has given a very complete bibliography of catheterization and intubation of the larynx, in a paper read at the Ninth International Medical

Congress, Catheterization was known and practiced by Hippocrates and the ancients down to the time when Asclepiades introduced bronchotomy, about a century before the birth of Christ. From then till the latter part of the last century, there seems to have been nothing further recorded on the subject. During the latter part of the eighteenth century tubes were used for blowing air into the larynx in cases of asphyxia from drowning by Fine of Geneva and others. Near the close of the century Chaussier invented a tube through which he blew air into the lungs of new-born infants in whom the respiration failed to be promptly established.

Girouard in 1827 urged the treatment of croup by the application of caustics through a tube passed into the glottis. Dieffenbach again in 1839 put in practice a similar procedure at Berlin.

The great discovery by means of which the possibility of placing and leaving a tube in the larynx was shown, is recorded of the celebrated surgeon Desault, by Bichat. A patient with a cut throat had a tube passed, as was supposed, into the esophagus, by Desault. While at the time of introduction there was considerable spasmodic coughing, it was not till some liquid food was introduced which provoked such violent coughing that he thought the tube might be in the air passage. He then, by placing the flame of a candle at the extremity, found that a current of air passed through the tube with each expiration. The withdrawal and re-introduction placed the tube in the esophagus, when food was injected without causing cough. This tube remained in the patient's trachea for three hours, having been well tolerated only when the beef-tea was thrown in through it. Dr. Ball says with reference to this discovery: "It is doubtful when Desault first profited by it, but it seems probable that it was about the year 1793." Bichat narrates six cases in which Desault's catheterism of the larynx was employed, four by himself and two by others. The first was upon a man upon whom tracheotomy was about to be performed for *angina trachealis*. Desault placed an elastic tube in the larynx and trachea. The sharp pain and coughing soon ceased, the respiration improved, while the fever increased, and the patient died the

same night. The second case was one of sore throat, accompanied with dyspnoea. He passed a tube, which became obstructed at the end of twenty-four hours. It was removed, cleaned and replaced. It was again removed at the end of thirty-six hours, and no longer required. The third case was that of an insane man who had cut his throat. Two-thirds of the circumference of the trachea had been cut through about an inch below the cricoid cartilage. A gum elastic tube having been introduced into the trachea, the patient breathed freely and the wound was stitched, but he tore it open and died of hemorrhage during the night. The fourth case was very like the preceding, the tube having been inserted because of cut throat. This patient recovered.

The fifth case, a surgeon of Toulouse in schirrus angina, attended with dyspnoea, placed a gum elastic tube in the larynx and allowed the upper end to project from the mouth. The patient was relieved, but the tube becoming obstructed, it was removed, cleansed and replaced. This was repeated six times, when he was compelled to give up the case on account of illness, and no further history is given.

The sixth, a soldier admitted to the Lyons Hospital, who had attempted suicide by cutting his throat, received air through a tube placed in the larynx and food through another tube in the esophagus for a period of fifteen days.

In 1858 Bouchut published his paper read before the French Academy of Medicine, entitled, "A New Method of Treatment for Croup by Tubage of the Larynx." Previous to this the tubes used had been long tubes passing through the larynx into the trachea, with the other end outside of the mouth. Bouchut used a short tube which was a truncated hollow cone resembling an ear speculum with straight sides, one and a half to two centimeters in length and seven millimeters in diameter. At its upper extremity were two collars about six millimeters apart, between which the vocal cords were supposed to rest. It was pierced with a hole for a string, which was brought out at the mouth to prevent the tube going into the trachea or esophagus and by which to withdraw it when desired. Bouchut says in his paper at the ninth International Medical Congress: "I introduced in the

tube as a guide, the end of a urethral sound on which there was a projection or shoulder, and took care to hold in my hand the silk thread in such a way as to fix the canula against the lower side of the shoulder of the sound, which was held in the same hand with the thread. Introducing into the child's mouth the index finger of my left hand, protected by a long metallic ring which left uncovered only the distal phalanx, I touched the glottis. Guiding it by the finger I pushed the sound and its canula into the larynx and as it was of the right diameter, with the help of its flange the canula was retained between the vocal cords. I then withdrew the sound without disturbing the silk thread, which I fastened to the child's neck."

The tube was removed two days later (January 14, 1858) because it had become obstructed by false membrane. Again, January 16th, it was coughed out and replaced, and was finally removed January 17th. The child made a complete recovery on the fifteenth day. Bouchut stated that he had three recoveries out of ten cases in the year 1858. The conclusions arrived at in his paper before the French Academy of Medicine in 1858 were: that a tube could be held in position by the vocal cords; that it did not interfere with the function of the epiglottis; that the larynx is tolerant of the presence of a canula; that it was possible in this way to relieve the asphyxia of croup and other laryngeal affections without tracheotomy; that false membrane could be easily expelled through the tube; that tubage could be done by the country doctor far from skilled assistance easier than tracheotomy.

This paper was referred to a commission appointed to consider the new procedure and the distinguished Trousseau as chairman reported rather favorably than otherwise. But we hear no more from Bouchut until 1887, when he took part in the discussion at Washington, following the successful establishment of the operation by Dr. Joseph O'Dwyer of New York.

Practically nothing seems to have been done toward perfecting the operation until about 1880, when Dr. O'Dwyer of the New York Foundling Asylum, unconscious of the work

done and the success attained by Bouchut, began a course of study and experiment which perfected intubation of the larynx. He says :

About this time tracheotomy was looked on with much disfavor at the Asylum, for the reason that we could not show a single recovery to demonstrate its usefulness. We had no argument to offer in favor of it except euthanasia, and not a few of even the most intelligent of the laity fail to understand how a child's suffering can be relieved by cutting its throat.

His first publication of his method was in *The New York Medical Journal* for August 8, 1885. After describing Bouchut's attempt and failure in 1858, and saying that he failed to establish the operation because of the defects of his tubes and the stronger influence of Trousseau in favor of tracheotomy, he goes on to tell us how he at first tried a bivalve tube, elliptical in shape, similar to the bivalve speculum; that while it was well retained and gave prompt relief, it failed because the relief was transient, owing to "the intrusion of the swollen mucus membrane between the blades in the infraglottic division of the larynx." Then he used a short elliptical tube, about one inch in length, which proved to be too short because it became blocked by false membrane. Then, to facilitate its retention, he added a wedge-shaped piece of metal to the sides of the tube, the thick end looking upward, but this caused so great difficulty of extraction that it was abandoned. He finally adopted the device of increasing the transverse diameter about the middle of the length, tapering both upward and downward so as to resemble two wedges joined at their large ends and making the tube almost cylindrical at its middle. In order to avoid interference with the function of the epiglottis as much as possible, he gave the upper extremity of his tubes a slight posterior curve, with some obliquity from before backward and upward. The posterior edge projects posteriorly in order to prevent its dropping into the larynx. Two sets of instruments are manufactured, one for children up to twelve years of age and another for persons older.

The set of O'Dwyer for children as sold by the instrument makers and described by himself,* consists of six tubes of

*Diphtheria and Croup by Billington and O'Dwyer, p. 266.

different sizes and varying in length from one and a half to two and a half inches, an introducer, an extractor, a mouth-gag, and scale of years. Each tube is provided with a separate obturator for the purpose of attaching it to the introducer and by projecting somewhat beyond the distal extremity, produces a probe point which prevents injury to the tissues on the detachment of pseudo membrane during the operation. The numbers on the scale represent years and indicate approximately the ages for which the corresponding tubes are suitable.

The essential result of the operation is the having placed in the cavity of the larynx a short metallic tube through which the child breathes, which is self-retaining and kindly and harmlessly borne without discomfort.

I wish to express my great admiration for the wonderful apparatus which Dr. O'Dwyer has invented after the most patient study of the human larynx, and I may say perfected. It is all the more remarkable, that he had the courage to put a tube into the larynx, without the knowledge established by Desault, and again by Bouchut, that the organ would tolerate a tube. This really seems most extraordinary when one considers the intense spasm of the glottis, caused by the inhalation of a single drop of pure water into the larynx or the most minute piece of soft solid food.

In 1854 Dr. Horace Green of New York was thought to be a foolhardy man to introduce a probang into the trachea and many of his confrères claimed he never did, but at last one fatal case caused by the sponge becoming detached from the handle in the trachea of an elderly gentleman brought Dr. Green's operation into disgrace.

If a probang proved so dangerous, what courage was required to place and leave in the larynx a short metallic tube, and what skill and ingenuity of mechanism to construct it just right for safety and retention. As I said before, the apparatus seems about perfect and one can scarcely have practical experience with it without the greatest admiration for the clever work of the inventor. The scale of years will be found an extremely satisfactory indicator of the sized tube to be used, remembering that girls require a little smaller tube than

boys. The obturator has a joint about the middle of its length, which facilitates its withdrawal after the tube has been placed in situ. On the left side of the tube anteriorly is a small hole through which is passed a piece of braided silk which with the ends tied together should be long enough to reach from the stomach well outside the mouth, so that should the tube find its way into the esophagus instead of the larynx, it can be withdrawn and not lost in the stomach.

The gag now sold with the set is not that invented by Dr. O'Dwyer, but the Denhard's gag, and is a very complete instrument, entirely self-retaining if nothing should interfere with it. It is a very important part of the apparatus and great care should be given to it by the assistant, since one operator is reported by Ingalls* to have had his finger bitten so badly that diphtheritic poison caused his death. Dr. O'Dwyer has said that one operator would do for a population of fifty thousand, but it is of importance to the operator that his hands have no fissures or abrasions into which the diphtheritic poison can find its way, and the most clever expert may thus be disabled. It seems to me that the difficulties and dangers of the operation have been exaggerated. Dr. William Northrop, who, next to Dr. O'Dwyer, has done more than anyone else to establish the operation, said at the discussion which took place at the Ninth International Medical Congress: "They have set up so many danger signals, that I fear that if I had never begun this operation I should not have the courage to begin." From an experience of thirty-three cases, he had never any trouble in introducing the tube and very little in extracting it, and no accident of any kind.

Dr. O'Dwyer says "to place a tube in the larynx of a struggling, choking child in the brief space of time that is compatible with safety, is a difficult thing to do, and should not be attempted except in cases of emergency, without previous practice on the cadaver." †

Everything having been prepared, the child with the arms swathed in a blanket is held in the lap of a nurse or the father, with the arms firmly clasped over the arms of the

* Archives of Pediatrics, January, 1891.

† Billington and O'Dwyer, p. 276.

child, while an assistant holds the head. The gag is placed and locked and the person holding the child's head is cautioned that nothing should be allowed to displace it. The operator with the forefinger of his left hand searches for the glottis and holds the epiglottis in such a way that it cannot obstruct the opening. Then with the right hand he introduces the tube by means of the obturator and introducer, carrying the handle of the instrument with a curved motion from close to the patient's chest to such a position that the distal end of the tube will slip into the larynx. After the tube is well placed in the larynx, it is detached from the obturator by the button-slide of the introducer, with the left forefinger on the rim of the tube; the obturator is withdrawn. The operator recognizes whether the tube is in the larynx or not by a peculiar metallic tubal cough and his left index finger.

If not properly placed he withdraws it by means of the string and repeats the operation after the child has recovered from the apnoea caused by the first attempt. Dr. O'Dwyer says that the time required by an expert is about five seconds and that no attempt should last longer than ten seconds if the child is suffering from great dyspnoea. When the breathing is relieved and the tube has become settled into its place, the string is withdrawn by placing the left index finger on the rim of the tube to steady it; otherwise it may be withdrawn during the extraction of the string.

Dr. Northrop thus describes the operation :* "The child is swathed, the gag is in, the tube is in, the thread is out, the gag is out, and the relieved and bewildered child is looking about, coughing and quite unable to comprehend the surroundings."

One of the earliest publications concerning intubation was by Dr. Brush, who thus wrote:† "I was told that Dr. O'Dwyer was going to operate on the child. The boy was placed on the nurse's lap, an assistant held the head, a gag was put into his mouth. Dr. O'Dwyer passed the index finger of his left hand back into the child's pharynx, while with the right he guided the instrument into the larynx. There was spas-

* Medical Record, December 11, 1886.

† Medical Record, Feb. 21, 1885.

modic coughing, a reddening of the face, the boy gave a long, deep inspiration, and a marvelous change instantly produced in the patient's whole condition. I thought the child was dead and before the little sufferer had recovered from his amazement he was sleeping soundly. I watched for an hour. The sleep was sound and deep and only disturbed by occasional fits of coughing."

Such is the abridged description of a witness to one of the operations at the New York Foundling Asylum, graphic in style and worthy of the pen of Dr. Watson or Dr. Thomas King Chambers, but none too florid.

My own experience with the operation consists of four cases.

The first case was a girl eight years of age taken sick November 18, 1890, with diphtheritic exudation on both tonsils. She lost the voice sound on the 20th, had a sharp croupy cough and in the evening had marked stridulous breathing, which continued with varying intensity until relieved by intubation, which I performed on the morning of November 27th, with the assistance of Dr. D. A. Cleaveland. I first introduced the three to four year tube, which she immediately coughed out. I then introduced the five to seven year tube, which was pulled out by the string, the nurse having allowed the patient's hands to get free. After its replacement it was retained until she died, about twelve hours later, from exhaustion.

The second case. I was called February 14th, 1891, by Dr. A. J. Campbell to do intubation on a girl a little over two years of age. The croupal breathing was intensely urgent and had continued for about twenty-four hours. The child had been sick about three weeks, having had diphtheria, followed by abscess of one of the cervical glands. There was no exudation visible at the time of the operation. I introduced the two year tube, with the assistance of Dr. George W. Burke and Dr. Campbell. The breathing was relieved at once and completely.

I left the string, intending to remove it in the afternoon, but the child chewed off one end and the family calling in one of my confrères, he cut the other as short as possible and let it go down the esophagus. Everything went on well and

I withdrew the tube with O'Dwyer's extractor on February 19th at the end of four days and twenty-two hours, because, first, that I might establish a point of observation and learn the status of the disease; second, to ascertain whether or not the tube was gummed or in any way occluded; third, to remove the string which lay in the esophagus, as I felt it to be a constant menace tending to draw the tube into the stomach if it should be coughed out of the larynx. It was out about an hour, but the breathing was so distressingly stridulous that I replaced it, and that on the first attempt, and withdrew the string in ten minutes. The child continued to do well, sitting up in its crib, amusing itself with toys and sleeping well at night, in no way uncomfortable, apparently, on account of the presence of the tube in its throat. The tube remained until about 7 A. M. February 23rd, two days and nineteen and one-half hours after the second introduction. When Dr. Campbell made his morning visit he noticed that the breathing was somewhat stridulous and on a digital examination of the child's throat could not find the tube. He telephoned me to meet him and as it was apparent that the cough was not tubal but croupy, I felt sure it was not in the larynx. On this point Dr. O'Dwyer says:* "Although a croupy cough may be caused by loose membrane above or below the tube, it is usually sufficient proof that the tube is not in the larynx." Remembering that Dr. O'Dwyer had only one tube swallowed in his fifty cases reported in the *Medical Record* October 29, 1887, and that he had found another tube in the pocket of of one of the other children, I set everyone present to looking about the bed and room. The father found the tube near the coal scuttle, into which it came near being thrown, and might have gone thus into the stove, enshrouding the case in mystery; for it would not have been found in the alvine discharges, and probably not in the ash barrel. I asked if the child had any violent fits of coughing during the night or morning, but was told not. Finally I learned that the aunt, who had the care of the child, was absent from the room and the child was left alone while she had eaten her breakfast,

* *Medical Record*, October 29, 1887.

which was about seven o'clock, and therefore this must have been the time when the little one had coughed the tube out and thrown it on the floor, so that it was worn altogether seven days and seventeen and one-half hours. The breathing was by no means as good as one could wish, and the cough was croupy and frequent, but it was not necessary to reintroduce the tube. March 5th, nineteen days after the operation, the child called "Mama" with the voice sound. While wearing the tube she could converse perfectly well in whisper. The voice continued to improve and was wholly restored and natural at the end of four weeks. The child took about a quart of milk each day that she wore the tube, besides drinking freely of water. During the whole time she was kept in a densely vaporized atmosphere at a temperature of 80° F. or above.

The third case was one of malignant diphtheria in a girl about four years old, to which I was called by Dr. M. D. Murphy June 6, 1891, during the prevalence of a virulent epidemic of the disease, which proved very fatal. I introduced the tube without difficulty, but felt a little uncomfortable, as I was afraid the obturator had turned where it screwed on to the introducer. The relief was satisfactory, but as I did not feel quite certain about the position of the tube, after an hour I removed it and replaced it without difficulty. The child wore it about six hours, when it was coughed out, and before it could be replaced the child died.

My fourth case was also one of malignant diphtheria, during the time of a very fatal epidemic. January 27, 1892, I was called to visit a girl about five years old with an exudation on the tonsils, which continued to develop and spread on to the uvula and soft palate. On February 2nd the voice sound was lost, but stridulous breathing did not ensue until February 5th. After about twenty-four hours I introduced a tube with the concurrence and assistance of Dr. D. A. Cleveland and Dr. F. B. Look. The relief to the breathing was immediate and perfectly satisfactory. The patient, who was an unusually intelligent and interesting child, laughed and talked and seemed perfectly unconcerned. The fever increased during the night, and the little one died of bronchopneumonia

February 7th, having worn the tube thirty hours. The relief to the breathing afforded great comfort to the parents, who were of the highest culture and the fondest parental sympathy. This child swallowed remarkably well and took more nourishment while wearing the tube than during the whole sickness before.

One other intubation of the larynx has been done in Middletown. The patient recovered after wearing the tube eight or nine days. The operation was done in June, 1891. I mention it as it makes five operations done in Middlesex County, with two recoveries.

The difficulty of feeding the patient after intubation is one of the most serious incidents of the operation. Various expedients have been devised to prevent the food from entering the tube, but thus far without success. The operation has been charged with producing what has been called "food pneumonia." Dr. William P. Northrop* published observations on one hundred and seven autopsies of children intubated at the New York Foundling Asylum, but found no food or other evidence to show that bronchopneumonia was thus caused. It is found quite as frequently after tracheotomy, and is the natural result of the disease itself.

Concerning the management of the thread, I would always remove it at the time of or soon after the operation; at any rate before leaving the house. In my first case I drew it between the teeth and fastened it to the cheek with adhesive plaster, so that I felt the child could not bite it off, but with the tongue she drew it forward, bit it in two, and it went down the esophagus. I also left it temporarily in the second case, and it could have been easily withdrawn when it was chewed off, but it did no harm apparently.

In my first case I felt timid about its removal, so much had been said about the extraction of the tube being such a difficult operation, and as I was working in what to me was an unknown field, I let it remain; besides it offered a chance for its removal by the nurse, should the symptoms seem to require it. The difficulty of removing the tube has induced Dr. Theodore Maxwell to propose the use of a magnet for the

* Medical Record, December 11, 1886.

purpose, the tubes of course being made of plated iron.* The late Dr. G. L. Kingsley, house-surgeon to the Boston City Hospital, devised instruments based on this idea, but did not succeed in getting an electromagnet strong enough to draw any kind of tube from the larynx on a cadaver.†

Dr. Waxham of Chicago suggests that as the skill of the operator improves the percentage of recoveries will increase. His first series of one hundred and fifty cases gave 27.33 per cent. of recoveries, while his second series of one hundred and thirty-five cases gave 43.70 per cent. He urges the continuance of the same line of treatment as previous to intubation.‡

Dr. Ball|| says: "It is probable that intubation in the future will not give a much larger percentage of recoveries than it has hitherto done unless some advance is made in the treatment of diphtheria."

The greatest danger from intubation in diphtheria is probably that arising from the presence of pseudo membrane, which may be disturbed by the tube and produce apnoea. It is advised that no one should undertake intubation without tracheal forceps at hand to remove any loosened membrane that may cause suffocation, and also that the operator should be prepared to do an immediate tracheotomy if necessary. I submit that it would be somewhat difficult to introduce forceps into the larynx and extract such membrane in a collapsed child, and that a tracheotomy done under these circumstances would be a very unpromising operation and scarcely comparable to that done in a healthy child for asphyxia caused by the presence of a foreign body in the trachea.

In estimating the value of intubation in the cure of diphtheritic croup, we must remember that it only aims to relieve the one symptom, stenosis of the larynx, which is but an incident, a very grave one indeed, of the disease, but by no means the only one to be met to ensure a successful termination of the case. There still remain extension of the disease to the bronchial tubes (croupal bronchitis), pneumonia, septic poison and exhaustion, any one of which might have proved

* *Lancet*, September 27, 1890.

† Dr. C. L. Gibson, *The Lancet*, October 25, 1890.

‡ *Journal of American Medical Association*, October 11, 1890.

|| *Intubation of the Larynx*, page 38.

fatal, had stenosis of the larynx not occurred. Without attempting to settle the much discussed question as to the identity of the so-called membranous croup with diphtheritic laryngitis, there certainly does occur an inflammatory stenosis of the larynx, a stenosis from edema and from spasm sufficient to destroy life by suffocation, and from these cases, which have not been infrequent, we shall get our best results from intubation.

We have thus far considered intubation as a resource for the acute stenosis of children. It is available also for chronic stenosis caused by syphilitic and tubercular diseases, perichondritis, paralysis of the vocal cords and for temporary relief in the asphyxia caused by neoplasms and malignant disease of the larynx. As tracheotomy may be required to supplement intubation, so intubation may be useful in the stenosis caused by contractions following tracheotomy, and in those cases where it is impossible to remove the canula and in which it has been worn for years because suffocation followed its removal.

Dr. H. C. Wood, in his address on anesthesia at the Tenth International Medical Congress, suggests that the intubation tube might be used to accomplish forced respiration in suspended animation from anesthesia or from poison. He pays in the same connection a graceful compliment to the late Dr. John Ellis Blake, a former member of this Society, as being the first to combine the use of oxygen with forced respiration for the relief of suspended animation in a case of poisoning. (A full account of Dr. Blake's case may be found in *The New York Medical Journal*, April, 1875).

In the treatment of acute stenosis of the larynx, intubation must be compared with the older operation of tracheotomy. They are the only operative sources for its relief. Previous to 1885 Dr. O'Dwyer alone practiced the operation. Since then it has been done almost everywhere on the civilized portion of the globe. The statistics of intubation have of late improved. Dr. Dillon Brown has collected two thousand, three hundred and sixty-eight cases of intubation and of these six hundred and forty-seven recovered. James B. Ball,*

* Intubation of the larynx.

has collected one thousand, eight hundred and forty-nine other cases with six hundred and thirty-eight recoveries, 34.7 per cent. Six hundred and nineteen were from European sources, with 31 per cent. of recoveries, and one thousand, two hundred and thirty from American sources, with 36 per cent. of recoveries: altogether four thousand, two hundred and seventeen cases with one thousand, two hundred and eighty-five recoveries, or 30.4 per cent.

Doctors Lovett and Monroe collected about twenty-two thousand cases of tracheotomy, with a recovery of 28 per cent.*

Those of you who attended the lectures of the late Dr. Alonzo Clark will distinctly recollect the graphic picture he drew of the child dying from croupal asphyxia, and how with a sarcastic smile he said to his pupils that when medicine promised nothing they could turn the case over to the surgeon for tracheotomy, during which operation, as he told us, it was no infrequent occurrence for the "little patient to die on the table. A sad sight, gentlemen—a sad sight."

Dr. Gay, of the Boston City Hospital, says of the three hundred and twenty-seven cases of tracheotomy operated upon at that institution: "The dangers of tracheotomy are collapse and hemorrhage, and yet the deaths which occur upon the table are not common. Ten of the City Hospital cases proved fatal in that manner."†

An editorial article in *The Medical Record* for April 24, 1886, says: "Tracheotomy as an operation in croup or laryngeal diphtheria may be said to be yet *sub judice*, and practitioners in general are still very loath to even suggest what they are wont to regard as an heroic measure and one of little practical utility. There is much reason for this. The parents and friends are naturally distressed at the thought of an operation and unless they can be assured of its success, will often refuse their assent to its performance. Again, tracheotomy is by no means the simple procedure which some of its enthusiastic advocates, with a greater fund of theory than of practical experience to draw

* American Journal of Medical Sciences, July, 1887.

† The comparative merits of Tracheotomy and Intubation, by George W. Gay.

upon, would assume. Tracheotomy performed on a living subject, especially a child struggling for air, with the larynx rising and falling with each labored respiration and blood flowing from the turgid veins to obscure the delicate field of observation, is one of the difficult tasks of the surgeon, and taking into consideration the problematical chances of final success, is one which he assumes with no light heart. It is, therefore, not surprising that the operation has been slow in gaining recognition as a justifiable therapeutical measure despite the fact that many lives have been undeniably saved by its timely performance."

This was the opinion of the leading medical journal of the United States, whose editor, Dr. George F. Shrady, is one of the eminent surgeons of New York, 1886, eight months after Dr. O'Dwyer had published the new operation, and two thousand years after tracheotomy had been established as an operation.

Dr. Shrady further said: "And if any more simple operation could be devised which could be shown to be of equal value, it would be welcomed."

Dr. Jacobi, of New York, said at Berlin at the Tenth International Medical Congress concerning tracheotomy in laryngeal diphtheria in America: "After ten or more years, but a very few men have practiced it extensively. It became more popular after 1870 and was relied upon by many. Our results, however, my own, perhaps, more than those of others, were less favorable than most of those which have been obtained, or rather published, in Europe. For some of our epidemics have been very severe, septic cases being the rule. I still shudder when I remember that half a generation ago I performed more than a hundred tracheotomies in succession, strangulation being imminent, without a single recovery. For the last few years I have not performed tracheotomy, for intubation has taken its place. Its discoverer and master, Dr. O'Dwyer, has appeared here to give an account of it and himself. In my own country he is known to be thoughtful, persevering, patient and honorable. I am positive that intubation has come to stay."

If men who are eminent as skillful surgeons approved the

operation of tracheotomy when surrounded by competent assistants with anxiety, how much greater is that of the country practitioner with little skilled aid. As a matter of fact how often has the operation been performed in our State, even in the larger towns. Has it not been one dreaded by the surgeons of this State. This then has been the reason that I have thought it not untimely to call your attention to the subject of intubation, because it certainly is not a formidable operation, it is not a mutilating operation, and not one painful to the child. It is by far less horrible to the unprofessional mind and may be done, as Dr. O'Dwyer says, "so as not to shock the most sympathetic mother." It is pleasant to feel that we have as a *dernier ressort* something less bloody than tracheotomy, and whether as a means of cure or euthanasia in fatal cases, intubation does not carry with it any of the horrors of the old method.

THE SPECIFIC TREATMENT OF ENTERIC FEVER.

READ AS THE REPORT ON THE PROGRESS OF
MEDICINE

BY

GUSTAVUS ELIOT, M.D., NEW HAVEN.

REPORT ON THE PROGRESS OF MEDICINE.

THE SPECIFIC TREATMENT OF ENTERIC FEVER.

BY GUSTAVUS ELIOT, A.M., M.D., NEW HAVEN.

Few subjects within the domain of practical therapeutics are of greater importance than the treatment of enteric or, as it is more frequently called, typhoid fever. The not inconsiderable mortality which it annually causes among individuals who have reached, or are approaching, maturity, and the great loss of time and strength which it entails upon those of its victims who ultimately recover, give to the subject a peculiar interest.

Can the course of typhoid fever be shortened or can its severity be alleviated by any known therapeutic measures?

To this question most practitioners, teachers and writers have, until recently, given a negative answer. All American writers—so far as I know—have done so until within ten years. Dr. Austin Flint, Sr., in 1880, and Dr. James C. Wilson, in 1881, did so in unequivocal terms.

The optimistic Bartholow, in 1877, in the second edition of his "Practical Treatise on Materia Medica and Therapeutics", expressed no personal opinion in regard to the value of the specific treatment with calomel, with which, he says, "Liebermeister has obtained surprising results", and made no mention whatever of the use of iodine or carbolic acid as specifics in fever.

Wilson, in his "Treatise on the Continued Fevers", published in 1881, wrote: "No medicine or method of treatment by which enteric fever can be arrested is at present known," (p. 227). He, however, mentions, without expressing his own

opinion of its value, the German method of using calomel (p. 228), and also states that: "In this country Prof. Bartholow has used, apparently with decided success," a combination of tincture of iodine and carbolic acid.

Even so late as 1884, Dr. James H. Hutchinson, in the "American System of Medicine", wrote: "It is certain that no remedy or plan of treatment has yet been discovered which has the power of cutting the disease short, although this power has been claimed at different times for several." (Vol. I. pp. 325, 326.)

Flint, in the fifth edition of his "Treatise on the Principles and Practice of Medicine", 1880, wrote: "It must be admitted that the known resources of therapeutics do not afford means for the arrest of these fevers [typhus and typhoid], nor even for shortening the duration of the febrile career" (p. 974). Almost, if not quite, alone among medical writers, and with his usual foresight, he, however, did not allow this statement to stand unqualified, but on the following page added: "It is not an unreasonable expectation that an antidote or a parasiticide, as effective in typhus and typhoid fever as quinine in malarial fever, may hereafter be discovered, and such a discovery is a proper aim for continued experimental observations." I know of no passage in medical literature more likely than this to stimulate the much-despised general practitioner to careful observation and study.

No one today professes to believe that an antidote has yet been discovered which is as effective in enteric fever as quinine in malarial fever. Many very estimable men—unfortunately, too, many teachers—seem to regard the attempt to discover such an antidote as either beyond their ability or beneath their dignity. Happily, however, there are a few teachers and practitioners who do not consider the search for a plan of treatment which will decidedly affect the course of the disease as entirely hopeless. By physicians of Philadelphia and the West and South the most careful observations have been made, and the most satisfactory results have been reported.

On the other hand, the physicians of New York and New England have clung to the expectant plan of treatment, and have been reluctant to try, and slow to acknowledge the value

of, any other treatment. Fortunately there are some physicians who believe in a specific treatment of enteric fever, and who do not hesitate to publish their views in books and journals. It is especially to Bartholow, formerly of Cincinnati, but now of Philadelphia, and to Wilson, also of Philadelphia, that the profession is chiefly indebted for a knowledge of the value of certain therapeutic measures which may fairly be regarded as constituting a specific plan of treatment.

Among the different remedies which have been recommended those most commonly used are preparations and compounds of mercury, iodine, carbolic acid, salicylic acid, the mineral acids, turpentine, nitrate of silver, quinine and alcohol.

The form of specific treatment, of which it is my purpose to speak, embraces the use of calomel, in connection with the tincture of iodine and carbolic acid. This method of treatment was described by Dr. James C. Wilson before the College of Physicians of Philadelphia, on January 3, 1883, as one which he had employed during the preceding year, and a brief account of it was published in the *Medical News* for January 20, 1883.

Bartholow, as is stated by Wilson, had used the following prescription:

℞ Tincturæ Iodinii ʒij;
Acidi Carbolicī ʒi.

M. Sig.: Two or three drops, three times a day.

Wilson used the same combination, giving one, two or three drops, every two or three hours through the day and night. He also prescribed from seven and a half to ten grains of calomel—to be taken every second night until three or four doses had been taken.

It is my practice in commencing the treatment of a case of enteric fever to direct that the patient take ten grains of calomel every other day, until four doses have been taken. I also order a mixture which contains one drachm of carbolic acid and a sufficient quantity of tincture of iodine to make four drachms, and direct that four drops of this, in a wineglassful of cold water, be given to the patient every four hours. For children smaller doses are, of course, prescribed.

To one who has been taught that cathartics should always

be avoided in the treatment of typhoid fever—and who has not?—the proposal to give a patient suffering with this disease ten grains of calomel, and to repeat this dose at intervals of forty-eight hours for a week, may seem reckless—perhaps even murderous. But this medication does not produce the disastrous results which might be expected by one who believes that he must never give a cathartic in typhoid fever. I must admit that, when I began to use calomel in this way, I prescribed smaller doses; and subsequently inquired in regard to their effect with some trepidation. But observing that unpleasant effects seldom, and dangerous effects never, followed their use, and that, furthermore, these smaller doses sometimes failed to produce catharsis, I increased the dose to ten grains. It will generally be found that unpleasant effects are no more likely to follow a dose of this size than a smaller one. It is, moreover, desirable to give a large enough dose to ensure a movement of the bowels, on account of the danger of salivation when the drug is retained in the body longer than twenty-four hours. If the bowels do not move within twelve hours after the ingestion of the calomel, as sometimes happens even after a ten-grain dose, it is wise to order drachm doses of sulphate of magnesia, to be dissolved in a little water, and repeated every fourth hour until a movement occurs. It occasionally happens, particularly if the bowels do not move freely, that symptoms of salivation such as an increased secretion of saliva, soreness and sponginess of the gums, and unnatural sensitiveness of the teeth, appear. This complication should be treated by washing the mouth every hour or two with a solution of chlorate of potash, of the strength of half an ounce to a pint of water. It will seldom be found necessary to discontinue the use of calomel before the fourth dose has been taken.

An experience of eight years in the use of this treatment, in such cases of enteric fever as have fallen under my observation in a moderately extensive general practice, has convinced me that its value is greatly underestimated by most physicians. I am confident that by this treatment the duration of enteric fever may be shortened, that in some cases the course of the disease may be arrested, that its severity may be

mitigated, and that—in most cases—dangerous complications may be avoided. But in order to obtain any benefit at all from this treatment, still more—to obtain the most favorable results from it, it is necessary that it should be employed judiciously. There are certain limitations to its utility which must be borne in mind. If these are disregarded disappointment will follow its use. No formal statement of these limitations has yet been made, nor has any one formulated the rules which must be observed by him who wishes to use this method successfully. I shall endeavor now to point out these limitations—to enumerate some of the reasons which experience has shown are likely to lead physicians, who try it, to form an unfavorable opinion of it.

The first requisite to the successful use of the specific treatment is to commence it early. Physicians who are not accustomed to it usually commence too late. There are several reasons why they do this.

Some physicians never try a new method of treatment in any particular case until after all the methods to which they are accustomed have failed. After a patient has been suffering with enteric fever two or three weeks, has, perhaps, had a severe diarrhea, possibly several hemorrhages, and probably considerable delirium; when, in spite of the usual expectant treatment he has grown worse and worse, his temperature has gone higher and higher, and his pulse has become more rapid and more feeble—when, in short, the patient is at death's door, the average practitioner will begin to think of something else which he can "try". If he happens to recollect anything about the specific treatment, or if he happens to pull down a book from the shelf and find some favorable mention of it, he is very likely to soliloquize: "Well! I guess that I will try that, but I do not suppose that it will do any good." Nor will he be disappointed. Iodine and carbolic acid are not drawn from the fountain of life. They will never reanimate dead men. They will prove of little or no benefit to such patients as I have described. The man who under such circumstances tries the specific treatment will very likely at once and forever condemn it. But he has not given it a fair trial, and his opinion concerning it is absolutely valueless. He, and men like

him, try the treatment and fail to obtain any benefit from it, because they are unwilling or neglect to try it until other methods of treatment with which they are more familiar have proved unsuccessful.

Another reason why some men commence the treatment too late is because they do not find out what is the matter with the patient quickly enough. A very common mistake, which many popular practitioners make in connection with typhoid fever, is to assume that the victim of this disease, when he consults them, is suffering from biliousness, or bilious fever, or "malaria", when in reality the disease is typhoid fever. If the physician ever discovers his mistake he is generally adroit enough to conceal his ignorance by declaring that the disease has "run into" typhoid fever, or has "developed into" typho-malarial fever. Sometimes, no doubt,—so dense is professional ignorance in some cases—he really believes that this has happened. Men readily excuse themselves for making this mistake, because they have been taught that it is difficult to make the diagnosis of the disease during the early days of its course. This kind of teaching is a great mistake. It has been a great hindrance to the accumulation of exact knowledge of the disease. It has destroyed many valuable lives, because it has led physicians to excuse themselves for neglecting to make an early diagnosis, and consequently they have not been in a position to adopt suitable therapeutic procedures. Within a few years neglect of this kind, by a physician whom he had consulted, was followed by the death of a son of one of the most distinguished medical teachers of New York.

The patient should be carefully examined at the first consultation and a diagnosis made. With a reasonable amount of care it is just as easy to make the diagnosis of typhoid fever the first time the patient is seen, as it is to make the diagnosis of pneumonia at the first visit. One must not hesitate to make the diagnosis of typhoid fever because the teachers and text-books declare that it is a difficult thing to do during the first week of the disease. It is not necessary to wait three or four days so as to observe the course of the temperature. This will seldom throw much light upon the nature of the disease. One might almost as well wait for the hair to fall out before making a diagnosis.

Nor must one hesitate to decide that the patient has typhoid fever because he does not seem to be very sick. Such hesitation may cost the patient his life. It may lead you to think that he has some malarial disorder, and to permit him to keep around on his feet, while you rely on quinine to cure him. In the meantime, if he really has typhoid fever, the disease has been steadily advancing in severity, so that the chances of his recovery are greatly diminished, and even if he finally does recover, he will probably be obliged to remain in bed from two to eight weeks longer than would have been necessary if the real nature of the disease had been recognized at first, and appropriate treatment had been immediately instituted. On the other hand it may easily advance to such a grade of severity, from imprudence consequent upon a failure to recognize its real nature, as to terminate in death. Of course one may not be correct every time, but it is far better to occasionally keep a man, who has no serious disease, in bed for a day or two, than to allow one who has typhoid fever to walk about for three or four days. When a man comes into a physician's office and remarks in a languid sort of way: "I have been having a little malaria for a week or ten days, and thought that I would come in and get something to brace me up, because I have a good deal of hard work which I must do this month"; even if his symptoms do point pretty strongly to the existence of typhoid fever, it is difficult to overcome the reluctance which one feels under such circumstances, in coming to the conclusion that the patient really has that disease, and that he must at once go to bed, and must remain there for from two to eight weeks. But if one wishes to treat typhoid fever with the best results he must make a correct diagnosis the first time the patient is seen. If he has that disease put him at once in bed, give him only milk for nourishment, and then, if you like, try the specific treatment.

But, you very naturally suggest, suppose that later developments prove that the patient has *not* typhoid fever. Very well! A mistake has been made, but no harm has been done. I presume that no one would make the diagnosis of typhoid fever until he had counted the pulse and taken the temperature and found the one accelerated and the other elevated.

There is no morbid condition accompanied by acceleration of the pulse and elevation of the temperature which is not benefited by rest in bed and a milk diet. If then, in a day or two, the temperature falls to normal, the pulse returns to its usual rate, and it becomes apparent that the first diagnosis was wrong, no harm has been done, but, on the other hand, the restoration of health has been hastened. If, however, the opposite mistake has been made, if the patient has really had enteric fever, but the nature of the disease has not been recognized, and appropriate therapeutic measures have not been adopted, the severity and duration of the disease have almost certainly been increased, possibly the life of the patient may have been sacrificed. These occurrences are far more frequent than the supervention of typhoid fever upon malarial fever, more frequent, too, than the alleged pathological superfetation—typho-malarial fever. If you are not certain of your diagnosis, give the patient the benefit of the doubt, and assume that he has typhoid fever until succeeding events prove that you are wrong.

Let me repeat again, what I have already reiterated, the first requisite in the successful treatment of enteric fever is a prompt diagnosis.

A third reason why, in some cases, the specific treatment is commenced too late is because the patient does not come under the physician's care at a sufficiently early stage of the disease. He may have neglected to consult any physician; or he may have been under the care of an incompetent physician before he consulted one who employs this treatment; or after he has been under the care of the physician of his choice for a number of days, he may find it necessary to enter a hospital, and consequently to suffer a change of medical attendants. Under any of these conditions it is impossible to obtain the most satisfactory results from the specific treatment.

The fact that patients with enteric fever do not usually enter a hospital until the disease has become well established, or has reached an advanced stage, prevents the best results of this treatment being observed in these institutions. Consequently hospital physicians and consultants, who are usually connected with hospitals, are not likely to form an especially favorable

opinion of this treatment. General practitioners rely for the most part, for teachings in therapeutics and for new suggestions in regard to treatment, upon the publications of distinguished teachers. These teachers as a rule reflect in their writings their experience in hospitals. From what has been already said it is evident that patients who enter hospitals are not likely to be very much benefited by the specific treatment, because the disease has usually made considerable progress, and valuable time has been wasted in trying other treatment. It is not strange, therefore, that the specific treatment is condemned by many hospital physicians, who are naturally reluctant to try upon their private patients a method of treatment which does not give strikingly good results in hospital practice. These facts explain why the specific treatment has not been more generally adopted by the profession at large—by general practitioners.

Three circumstances have now been mentioned under which the specific treatment may be commenced too late to give a good result, and consequently may fail to win the approval of the physician who tries it.

Assuming now that the patient has been seen early, and that a prompt diagnosis has been made, a second reason why the specific treatment may not make a favorable impression upon the mind of the practitioner is that it may be discontinued too soon. Even if no very marked improvement is observed after forty-eight or seventy-two hours, the treatment should not be discontinued unless there is some especial important reason for doing so. One need not be surprised that, at the end of this time, the patient is not much better. The treatment should be continued for at least a week, before the idea of abandoning it should be entertained. If in the meantime the patient has not grown worse, there is good reason for thinking well of the treatment. If, on the other hand, convalescence quickly ensues, it may fairly be regarded as specific.

A third reason why the specific treatment may fail to produce a favorable effect is that the medicine may not be retained by the stomach. Persistent vomiting is occasionally a marked symptom at the beginning of typhoid fever. Sometimes the calomel, at other times the mixture of iodine and

carbolic acid, and occasionally both, are vomited. Rarely the stomach acquires an intolerance for either or both medicines after they have been taken without any trouble for several days. Under these circumstances it may be necessary to relinquish their use entirely. Such cases are, however, exceptional.

In following out this treatment the most satisfactory results will be secured only by insisting upon those rules with regard to diet and rest which are now generally recognized. The patient must be kept in bed, in the horizontal position, from the time treatment is commenced until for a week the temperature has not been above 99° F., at any time during the twenty-four hours. He must not be allowed to travel, to get out of bed, or to have company. For the same period his diet must be exclusively of liquids, preferably of milk. Indiscretions as regards getting up too soon, eating solid food too early, or being excited by conversation, are just as likely to be followed by a return of the fever as when convalescence has occurred under expectant treatment. I have sometimes suspected that there was more liability to a return of the fever after the specific treatment. This, however, would be difficult to prove, and impossible to explain.

It is not my purpose to weary you with statistics, or with the details of the histories of a series of cases. There is such a great difference in the natural history of different cases of typhoid fever—so many cases have a favorable course independently of treatment—that statistics or histories designed to illustrate the favorable influence of any particular form of treatment are always met by the criticism: "Oh, the doctor has had the good fortune to meet with a number of mild cases of the disease, and so has been deluded into thinking that the disease has been influenced by his treatment." I do not expect to convince any one that this treatment is infallible. I only hope to lead some one to think that it is worth trying.

My own experience may be briefly summed up as follows:—In the summer of 1884 I commenced to use the specific treatment in cases of enteric fever. Every year since I have had a number of cases. All have been in private practice. Very few of them have been treated as systematically as I recom-

mend you to do. It has not always been possible. The more closely the rules which have been laid down in this paper have been followed, the better the patients have done. I have never had occasion to regret that I did not stop giving the medicine earlier. I have sometimes been sorry that I did not continue it longer. Upon the stomach and tongue it nearly always exercises a favorable influence. By diminishing the duration and intensity of the fever it enables the use of alcoholic stimulants to be entirely done away with in most cases.

Under no other treatment which I have employed have the patients done so well. I have used quinine and hydrochloric acid so thoroughly that I am convinced that neither has any influence upon the disease. Salol, which seemed to promise so much, has disappointed me. Turpentine and alcohol are of unquestionable utility in certain stages of severe cases, but are of little or no benefit in mild cases.

Having carefully studied the histories of a considerable number of cases, I am convinced that, used with certain reasonable restrictions, the specific treatment, as here described, has a positive beneficial influence over the disease, and is worthy of more favorable consideration than it has hitherto received.

In closing I wish to repeat and to emphasize certain points which are of especial importance in connection with this subject :

1. Progress in the treatment of enteric fever has been hindered by certain prevalent but erroneous teachings of the schools and text-books. The most important of these mistaken notions is that the early diagnosis of the disease is difficult ; a second is that the course of the temperature furnishes, in the majority of cases, any considerable aid in diagnosis ; and a third, that all cathartics are dangerous and should be entirely avoided.

2. Clinical experience has already demonstrated that the course of enteric fever may be abbreviated, the intensity of the fever lessened, and the severity of the general symptoms very much ameliorated by the systematic use of calomel in connection with the tincture of iodine and carbolic acid.

3. In order to secure the most striking results from this plan of treatment, it must be commenced at the beginning of

the disease, and followed up continuously as long as pyrexia continues. In the meantime the usual dietetic and hygienic rules must be strictly observed. Persistent vomiting may render it impracticable to continue the treatment after it has been commenced. If it is tried after other medication has proved useless, it is not likely to give much satisfaction.

If any one who has listened to me is sceptical in regard to the claims which I have advanced, let me address a few words to him in particular.

If you have never used this plan of treatment, give it an early trial. Do not judge it by a single case, but try it in ten cases. Do not trust to your memory, but keep a written record of them, so that you may have facts and not merely impressions to guide you in forming your opinion. I believe that your conclusion will be favorable.

If you have tried it in two or three cases and then discarded it in disgust, is it not because you have neglected some of the rules which must be observed, if successful results are desired? If this is the case, give it a further and more careful trial.

Do not henceforth sit helplessly by the side of your patients with enteric fever, while the symptoms grow steadily worse and worse; while the temperature goes up, and down, and then still higher up, and the fever is destroying the structure of the most important tissues; while the intellect becomes more and more disordered; and while intestinal ulceration extends deeper and deeper—do not, I say, continue to sit with folded hands, expecting—expecting, alas! too often in vain—that Providence and self-limitation will pull the patient through. Do not rise up and mildly but incredulously order a sponge bath when the patient feels hot; or a small dose of quinia three times a day, or a large dose if the temperature rises above 103° F., with the expectation that these measures will appreciably influence the course of the disease. They will not do it.

You may, if you like, give the mineral acids. They will do no harm. But be very cautious how you run the risk of weakening the heart and causing disorganization of the blood by the use of the new antipyretics. Be cautious, too, how

you distress your patient by tumbling him into a tub of cold water several times a day. You will rarely need to do it, if you will employ the specific treatment.

Hold fast to your faith in the efficacy of drugs. Select them wisely, administer them boldly. Study their effects carefully and patiently. Record your observations accurately. In this way you will be enabled to form an intelligent opinion, and will be in a position to offer to others evidence of value upon this very important subject.

In discussing the paper, Dr. O. T. Osborne said:

I am one of the physicians whom Dr. Eliot would term incompetent, because I confess that I cannot always diagnose typhoid fever at my first visit.

I think the key-note to the apparent large success of the calomel and iodine and carbolic acid treatment is, that the calomel reduces decomposition in the intestine to a minimum. I doubt if the one drop of carbolic acid and three drops of tincture of iodine, taken in a glass of water, have any action, either immediate or remote, on the local lesions or contents of the intestine. It would seem impossible that such a dilution of carbolic acid should have any antiseptic action, even if it was all absorbed by the stomach. If I desire the antiseptic action of carbolic acid in the intestine, I give it in the form of salol and thus do not disturb the stomach.

The Doctor says that if vomiting starts up, he stops his iodine and carbolic acid. Is not that just the weak point of the treatment? Are we justified in using a drug in typhoid fever that is liable, yes, very liable, to cause vomiting, thus increasing the danger of our patient by lessening his power of outlasting the disease?

Dr. Parsons said: Dr. Eliot has not given us any statistics. I might say there was no typhoid fever in the cases he speaks of. Two years ago a member wrote of curing a hundred cases of pneumonia without alcohol—an astounding statement. Let us have the particulars so that we can better judge, when these subjects are written upon.

SURGICAL SECTION.

SURGICAL SECTION.

The Section was called to order by Dr. Storrs at 2.40 P.M. on Wednesday, May 25th, in the room of the class of 1892, in Dwight Hall.

Dr. Wainwright moved that twenty minutes only be given to each paper and ten minutes to discussions, unless by special vote.

Dr. Storrs' paper on "A Century of Surgical Growth—Its Causative conditions", was read and not discussed.

Dr. Wiggin's paper on "Intestinal Obstruction—Its Diagnosis and Treatment", was read and discussed by Doctors Fuller and Russell. Dr. Fuller's remarks will appear in detail later. Dr. Russell favored early and prompt treatment and agreed with Dr. Wiggin; he thought it not safe to wait for stercoracious vomiting, and illustrated with a case of his own where gangrene occurred before stercoracious vomiting began. He said that increased violent peritonitis is an important symptom not mentioned in the text-books. He gave little opium, as it is apt to lull the doctor into a false sense of security. He thought absence of temperature did not prove absence of peritonitis. He used bone plates and always keeps them on hand; two cases in which he had used them recovered; one died, but not from the plates.

Dr. Ring's paper on "The Surgical Treatment of Granular Lids" was discussed by Doctors St. John and W. T. Bacon. Dr. St. John said that the expression "Granular lids" is used as a scape-goat for other troubles thought real; granular lids, those in which there had been decided hyperplasia, were comparatively uncommon. Of a thousand cases in his own practice of lid disease, only one hundred were granular lids, and many of these very mild. In dispensary cases the proportion is much greater. Those which he used to treat by astringents he now prefers squeezing, as it saves valuable time. Dr. W.

T. Bacon testified in favor of squeezing and the actual cautery. He sees many cases and thought the lids were left in better condition after squeezing than after astringents, and less cicatricial tissue resulted.

Dr. Russell's paper "Against the Solvent Treatment of Stone in the Bladder" was discussed by Dr. Carmalt. He agreed with Dr. Russell and said Dr. Russell's paper thoroughly disproved the solvent theory. He thought no fair tests could be made on stones outside the bladder, but he had made some experiments proving New Haven "tap" superior to Buffalo Lithia water.

Two grams of uric acid were thoroughly mixed with five hundred c. c. of the solvents given below, and maintained at 37° C. for eight days with occasional shaking:

Solvent,	Uric acid dissolved.
Distilled H ₂ O,	0.165
Buffalo Lithia water, No. 2,	.225
New Haven tap water,	.288
1 % Li ₂ Carb. Solution,	1.385

Dr. St. John's paper on "The Progress of the Century in Ophthalmology" was read but not discussed.

This closed Wednesday's session.

Thursday, May 26th, the session was opened at 2.30 p. m. by Dr. Storrs.

Dr. Wile's paper on "Operation for Stone" was discussed by Doctors Wainwright and Russell. Dr. Wainwright thought the high method a good one and sometimes the best; he thought patients recovered with less after-trouble. Dr. Russell said he did both operations; in four high operations he saw the peritoneum only once, found the bladder easy of access even in fat people, and found less danger of hemorrhage in the high than in the low operations. He thought the high operation not so rapid and the drainage not so good as in the low operation; but a double drainage tube drained all that was necessary in the former operation. Dr. H. O. Marcy thought the high operation opened a new field for the relief of bladder troubles other than stone; bleeding tumors of the prostate, etc. Dr. Wile in rebuttal said that the sta-

tistics were three to one against the high operation and that the question of hemorrhage was not important.

Dr. Mayer's paper on the "Prostrate Gland" was discussed by Dr. Robert T. Morris of New York. Dr. Morris thought Dr. Mayer orthodox. He said the prostrate begins to atrophy at the same age as the uterus, and therefore at that time the nerves give out and require to be stimulated. Only comparatively few cases show marked symptoms and it is desirable to put off catheter life as long as possible. He recommended boracic and benzoic acid taken internally to prevent or inhibit decomposition of urine.

Dr. Wainwright's paper on the "The Medico-Legal Aspects of Chloroform" was discussed by Dr. Storrs.

Dr. Cook's paper on "Club Foot" was not discussed.

Dr. O. C. Smith read a paper on "Congenital Deformities," which was not discussed.

Dr. Almy's paper on "Pyoktanin" was discussed by Doctors Morris, Downs and Augustus Crane, all of whom regarded Pyoktanin as one of the weaker antiseptics and objectionable on account of the color. It was most useful in superficial, ulcerating surfaces, and has sometimes been injected into cancers with fair results.

Dr. Crane's paper on "Dissection Wounds" was not discussed.

Dr. Parmele's paper on "Dental Surgery" was read by title.

This completed the program of the Section on Surgery and it was adjourned.

ANSEL G. COOK,
Secretary.

A CENTURY OF SURGICAL PROGRESS—ITS CAUSATIVE CONDITIONS.

BY M. STORRS, M.D., HARTFORD.

On this historic occasion, it is our privilege to speak of whatever belongs to medicine or surgery pertaining to this century. In our general sessions we shall honor our progenitors by recounting their personal qualities and history, and by inspecting and analyzing the compact or organization into which they entered and by which their successors in all succeeding periods have been held in fraternal fellowship. But we honor them no less in this Surgical Section, when, as indicated by our program, we bring together the fresh and living topics of the day which are the outgrowth and fruitage of the medical progress of the century. It is hardly appropriate for me to trench upon the ground allotted to our respective historians, but as prefatory to your deliberations I may present some general considerations, such as the conditions and events which have effected the growth and the development of surgery during the century.

The first event of this medical century that had an influence upon surgery was the

ORGANIZATION OF MEDICAL ASSOCIATIONS.

We note this as an important factor in the progress of surgery and of internal medicine. We shall not give a history of these organizations, but allude to them as fundamental in laying the foundations for surgical progress. Those early physicians had the right kind of training and discipline for creating comprehensive and permanent organizations. They had the blood and spirit of colonial ancestors, who had been exiled in Holland long enough to study the constitution of a free state, of a free church and the free school. They had

seen how all this had greatly influenced our own state institutions and had made them models for national imitation. Besides, the medical men who had been brought together in the French and Indian wars, and later in the war of the Revolution, had felt the need and advantages of association.

Connecticut has the honor of having had the first medical organization in the country; the Norwich Association having been established in 1763 upon the voluntary principle, and the State organization would have held the same honorable priority if the petition of the memorialists had been granted by the General Assembly.

Great honor is due to these men, who had come to discern the genius of the age and how much medicine and surgery were to be advanced by organized effort. They saw that in union there would be activity, growth and medical culture.

This century has been marked as the era of organizations. The world moves on and civilization advances in this way. It confederates states, differentiates society into the social orders and classes, forms the combinations and trusts of trade and business, and throws around the cultured and professional groups its golden links of association. It is the moving force of the age.

Medicine has not been behind. The work has been pushed on until every large town, district, county, state and the nation has each its medical organization, and the civilized peoples of the world have their international medical congresses. But this is not all. These state and national associations are made up of many special organizations. The program of the last Congress of Physicians and Surgeons showed fourteen special national associations represented, and some were not represented. Organized effort is also carried into the literature of medicine. Systems of surgery and internal medicine are worked out by association of expert contributors—Pepper's System of Medicine has eighty-nine such contributors, Holmes' System of Surgery forty four, Ashurst's International Encyclopedia seventy-five, and so of others. These works are a collection of systematized individual effort, complete and authoritative. Many great men have given the world their best lines of experience in this organized way, contributing to

special subjects instead of going over the general ground, which becomes repetitional and tiresome. Sir Astley Cooper, the greatest surgeon of any age, left only works on a few subjects, as Hernia, Dislocations and Fractures, Anatomy of the Heart and Thymus Gland. Not that we undervalue such text books as Gross, Erichson, and Agnew. They are general contributions. The system of surgery has outgrown the reach and compass of any one man. Journalism is a temporary association of editors and contributors, and the *Annals of medicine* are the work of still more associated labor, making what is new and original in the one thousand current journals throughout the world available for ready reference.

This Society, among the first to be established, has accomplished much. It has brought men together, breaking down the barriers of isolation, removing prejudices and jealousy. It has through conferences, reports and associated action, reached a consensus of opinion which has taken the place of individual dictatorship. The profession has become enlarged in its views and has multiplied its methods. It has besides suggested and promoted the interests of humane institutions in the State. It holds all the special organizations of medicine in the State in firm alliance to itself, with the exception of Dental and Oral Surgery. Provision should have been made for this branch of medicine in our medical colleges as has been done for other specialties.

Another fundamental condition is the alliance between Medicine and Surgery, which was consummated in this century.

In the best periods of medicine the union has been closer. It was better in the time of Grecian civilization than in remoter history, or subsequently, until about the beginning of this century. Hippocrates was both physician and surgeon, as seen in his writings, but he was descended from a family of priest-physicians and inherited their prejudices, traditions, and their preferences for medicine. If he had been equally a lover of surgery the union might have continued longer and more firmly. He would give for example explicit direction as to the removal of a calculus from the kidney by an incision, but he had such a horror of removing a stone from the bladder on account of its difficulty and danger that he says "that

cutting for stone I will not meddle with but will leave it to operators in that way," referring to the surgeons or hand workers—the lay surgeons. This was an admission of weakness or an acceptance or recognition of lay surgery. This shows one of the ways by which the separation was brought about, by the relinquishment of surgery to the laity.

But for a time under the brilliant leadership of such men as Herophilus, Erasistratus, Celsus, Galen, and by the great influence of the Alexandrian school, internal medicine and surgery were held more together in their respective centuries. But after Galen, in the Christian era, they became divergent and divorced, and it was a sad day for surgery, because the clergy and the church, opposed to bloody operations and dissections, captured medicine, and surgery was handed over to the barbers, farriers and sow-gelders, lay-surgeons, as in remoter periods. The estrangement continued, and in the eleventh century Avenzoar, a distinguished physician, "apologizes for condescending to write on a subject so contemptible as surgery." In his day surgery was practiced in Arabia by the servants of physicians. Surgery was in the hands of the laity or charlatans until the middle of the seventeenth century, when by the united efforts of the more enlightened minds of Europe, internal medicine and surgery began again to be united, but as late as the nineteenth century we find footprints of the medieval period. But now medicine and surgery are so closely allied, so taught and so practiced, that it is difficult to draw any line of division between them. In the nature of things they cannot be disjoined. The surgeon must understand internal medicine. He must discern the relations which the internal disease, known by its symptoms, has to the external which can be seen, handled and measured. The physician also must have surgical knowledge, acquaintance with the principles and methods of surgery. The exigencies of life demand it. Otherwise a surgical case would pass beyond the possibility of surgical relief because its nature had not been recognized by the physician or he had excused himself from interference. As it was the great achievement of the seventeenth and eighteenth centuries, under the kindling light of the renaissance, to rescue medicine from the church

and surgery from the laity, so will it be the work of the present and coming centuries to cement them into stronger alliance for their mutual advantage.

We cannot contemplate the growth and development of surgery during the last century without acknowledging our obligations to the

SURGERY OF ANCIENT TIMES.

We seem to be so interested and involved in the present, that we forget the achievements of that age, or fail to comprehend their relations to us. The surgery of the old civilizations has been a powerful factor in surgical advancement in this century, not so much in the way of classical culture as by the science and methods which it reveals to us. We do not refer to the surgery of the legendary and mythical period of Hindoo, Grecian and Roman history but to that of the period of their higher civilization. This had been buried under the medieval rubbish. Its light dawned upon Europe anew in the time of the renaissance, but its full brightness did not reach modern civilization until this century. The earliest Greek edition of Hippocrates' works in folio was published in 1526 at Venice, but the complete writings only appeared in French in 1839 by Littré. Other valuable editions have followed on through the century—Adams, Ermerins and Reinhold, the latter issued in 1869, so that the literature of ancient medicine and surgery is more accessible and better known. Its fullness and richness would fill us with astonishment, unless we took into account the fact that the period of Grecian civilization far exceeded the modern in duration and that Greece could show in every department of letters and art men of mighty intellect. Her statesmen, philosophers, historians, orators and poets, and perhaps we must add physicians and surgeons, have never been equaled, so that we can truly affirm that in no century of modern civilization has there been so great a revival of the old surgical principles and methods as in our own.

Laennec, to whom the world is indebted for the practice of auscultation, freely admits that it was suggested to him by the study of Hippocrates who, treating of morbid fluids in the

thorax, gives particular directions for succussion. Dr. Nathan Smith, who manipulated the hip in dislocation, and later Dr. Bigelow, who explained the scientific principles involved, might both have received the suggestions from Hippocrates, who described the method. We find that very many of the operations of to-day that we speak of as new, had been already done or suggested in Grecian surgery—laparotomy, for example. It was then done for impacted feces by making the incision on the left side below the umbilicus. Herophilus, four centuries B. C., operated upon the liver and the spleen and considered the latter of little importance in the animal economy. Calculi were removed from the kidneys, radical operations for hernia, long bones resected, glandular swellings extirpated, empyema by incision between the ribs, ligature above and below for aneurism and emptying the sac. They were acquainted with the ligature for the tying of arteries in continuity, as in aneurism, but they preferred to arrest the hemorrhage in amputations by the actual cautery or boiling oil—suggestive of hot water, and cataracts were removed. Hippocrates' works on Fractures and Dislocations, in description and treatment are scarcely excelled in any following age. Plastic operations were done, "and a list of more than one hundred surgical instruments are described, made of polished steel, sharp enough to divide a hair, perfectly clean, kept in flannel in a wooden box."

These items show what a vast mine of surgical wealth was laid away in that old civilization as the coal and the ore of the mountain are deposited for after ages. It was lost to the sight of the medieval ages, but in this century, under the impulse and inspiration born of anesthesia and antisepsis, the modern surgeon has pushed on to do equal and greater operations with success, and we may add that the words of Hippocrates, the man who is called by Richerand a medical encyclopedia, will be heard and his methods will be studied and followed by surgeons after the epics of Homer have ceased to be recited or the lyrics of Pindar to be sung.

ANATOMICAL STUDIES.

History demonstrates that surgery cannot flourish without

good anatomical facilities. Those nations which had an aversion to it, as the Hindoo, Chinese and Arabic, had very little surgery. The Greek and Roman surgeons went to Alexandria for their anatomy, and when this school was blotted out surgery declined. And when after the dark ages anatomy, as Billroth says, was rediscovered in Europe, the dead line of surgery was broken. Vesalius at Brussels was the first to practice dissection on the human body. He was followed by Fallopius at Pisa and Eustachius at Rome. These three men were founders of the anatomical science, and later Sylvius at Paris, who had Ambrose Paré for a prosecutor. The schools of anatomy were planted over the continent. Great Britain had an early prejudice to dissections and they were carried on by stealth. They have never been very popular in this State. It may be due in part to some unwise doings of the profession itself, but at any rate it is hard to get needed legislation. Proper regulated provision should be made at least for the necessary supply for the only medical school we have in this State. This supply should be ample not only for the school but to meet the experimental operations which every surgeon in the State ought to make. The distinguished surgeons in our earlier and more recent history, Physick of Philadelphia, Mott of New York, Warren of Boston and Mussey of Cincinnati made a great reputation for themselves and for their country by their lifelong study of practical anatomy.

Clearly related to anatomical study is the post-mortem examination. Oftentimes the pathological examination clears up the whole field for the surgeon, but between the natural repugnance of friends and faulty legislation, few examinations are had. Examining a year or two ago the record of the Hartford Hospital, I found that only three post-mortems had been made in the year. I was informed in one of the largest hospitals in Berlin that a post-mortem examination was made in every case, amounting to seven or eight hundred annually. This adds immensely to the value of the records of the hospital, to surgical anatomy and to surgical experience.

Aside from the occasional post-mortem, it is in the dissecting room of the medical school that we get our anatomical knowledge.

This State had no medical school before this century and received very little if any benefit from those established elsewhere. There were only three or four in the country in 1792, the first and principal one in Philadelphia. They have rapidly increased since 1840 and now there are in the United States one hundred and twenty-six, the ratio to the people having doubled. But notwithstanding the large number existing, it is gratifying to know that some one hundred and forty-six third and fourth rate schools have gone out of existence. Of the four thousand physicians in this country in 1792, only four or five hundred had a medical diploma and many of those had been obtained abroad. Such a statement shows the limited preparatory advantages that could be had in the early days of this century.

In 1881 and 1882, ten years ago, ten thousand, seven hundred and thirty-seven students were matriculated; in 1889, thirteen thousand, three hundred and ninety-eight. Of these matriculates in 1881-82 thirty-six per cent. graduated and in 1889 thirty-one per cent. These figures denote a higher standing. By the advice of the best medical minds the states are establishing boards of health and enacting medical practice bills which require examination and license. This in turn drives out the lower grades of schools and stimulates others to a higher standard of competition; requiring preliminary examinations and lengthening the term of study. Our State, it is earnestly hoped, will in all of these things put herself at no distant day in the front ranks.

But this healthy growth of the schools demonstrates that anatomical studies and facilities have been greatly increased.

Besides anatomy we are dependent upon our schools for instruction in physiology and pathology. The influence of these studies has had a marked and increasing influence upon surgery in the last hundred years, and has resulted in the greatest surgical discovery of any age.

These studies began to be developed for surgical purposes in the last century. Previous to this, pathology was reckoned the handmaid of medicine. France was distinguished for her medical pathology, but John Hunter, who died soon after the formation of this Society, did more than any one before him

to awaken an interest in surgical pathology. He carried on his work of investigation until he had a museum of ten thousand specimens, wet and dry, classified anatomically, physiologically and pathologically. The father of American surgery, Dr. Physick, was a pupil of Hunter, and among other distinguished men, Abernethy, Jenner, and Sir Astley Cooper. Hunter insisted that physiological and pathological principles must be applied to surgical practice. He published his views on these subjects and they form the ground work of much of modern surgical pathology, and, unlike much that was written a century ago, are worthy of perusal now. About this time many great surgeons devoted themselves to surgical pathology—Petit's "Observation on the Formation of Thrombi in Severed Vessels," Hunter on the "Reparative Processes," Benjamin Bell's "Classification of Ulcers," Cheselden's "Description of Neuroma," Pott's "Distinction of Spinal Curvature from Caries and Abscesses of the Vertebrae from that of other Causes," and later the writings of Sir Astley Cooper, which are in the same direction.

Such pathological studies enlarged the area and scope of surgery by suggestions and new methods. Indeed, according to Charles Creighton, "the progress of pathology hitherto has been exactly parallel with the progress of philosophy itself, system succeeding system in genetic order." In this statement is found to some extent the reason for the difficulties inherent in the study of pathology. It is in this sphere of pathology that theories, hypotheses and speculation exist.

The practical physician or surgeon cannot drive them away. They grow into rules of practice or working hypotheses. Hippocrates insisted that practice should be governed by experience and not by theories. Cullen believed "that theories to be safe should be fully studied." Such men of any period, who have taught and written within the lines of their experience, have handed down more of truth, and their works have endured while brilliant theorists have been forgotten.

Also the causal conditions of disease is the hardest problem in pathology to solve—the question as to what is of exopathic and what is of endopathic origin. Virchow, without discussing so fully etiology, treats of "the behavior of the elements

of the living body in the usual kinds of illness," or the history of the elementary processes of disease. But as cells are now counted as complex, and the most elemental tissue known is protoplasm, according to the method and philosophy of Virchow his pathology should be protoplasmic rather than cellular. Cohnheim in his *General Pathology* adopts the physiological order and direction and omits etiology. Such a philosophy recognizes morbid processes as modified physiological conditions and processes, and so physiological processes must be studied and known in order to know pathological conditions. Rindfleisch in his *Elements of Pathology* finds that all that separates one disease from another is contained in the cause. Simon, like Rindfleisch, is etiological, but for the most part he finds the causes of disease to be exopathic.

The prevailing opinion is toward the exopathic theory and it is from the etiological side "that the great sum of contagious and infectious diseases is mostly studied." This was the theory of Pasteur, who established the germ origin of disease. Both he and Tyndall demonstrated that putrefaction was due to activity of low forms of organic matter and many diseased conditions were known to be produced by the deposit and growth of these organism. In Crookshank's *Bacteriology* some sixty of these low forms are described, and many of them injurious to the human economy. Many are causative of surgical diseases and now surgical pathology is almost synonymous with surgical bacteriology. This crowning event of surgical pathology has happened within the last twenty years of this century and in that period surgical bacteriology has done more to advance surgical pathology than has been done in all the centuries preceding and brings us as before intimated to

ANTISEPSIS.

For as soon as the germ theory of putrefaction had been established the attention of surgeons was turned to the prevention of germs entering the wound, or to so modify the soil in which the germs are developed as to render them inactive and to prevent their increase. Lister, acting upon suggestions made by Lemaire, began his experiments with germicides

and he established the antiseptic treatment, which was the forerunner of asepsis. All this is well known and is too recent for an historic occasion. It has made the name of Lister immortal and it was a memorable spectacle to see the homage given to him whenever he presented himself before the last International Congress. From Listerism or antisepsis, surgery has received an immense impetus. Ground hitherto forbidden can now be entered, cranial, thoracic and abdominal regions are opened to the surgeon with well nigh impunity.

Another favorable condition for surgery has been the

SCIENTIFIC AND SYSTEMATIC USE OF THE CLINIC.

This is largely done also in connection with medical schools, in hospitals and dispensaries. There is here a greater abundance of available materials. Cases are classified, laboratory work is more scientific, and the records and museum are valuable and accessible at any time. A century ago no hospital or asylum existed in this State. There were only one or two in the country. A city of any size and respectability has now hospital accommodations. Ten years ago New York city had six thousand beds, one bed to every fifteen hundred of its population. Connecticut will have, when those in process of erection are completed, over six hundred, about one to every one thousand of its population. Hospitals to-day are so well constructed, managed and endowed, that they have become the surgical centers for clinical study and experience, and important factors in the development of practical surgery, surgical laboratories. They have an intimate relation to the medical college, sometimes the college has grown out of the hospital, but no medical college can flourish to-day without some union with the hospital. The whole profession is under obligation to them and the attainments of our recent graduates confirm this estimate of their value, and it is worth noting in this connection that the nurses of the hospital training-school have become indispensable factors in surgical success. Hospitals may not be perfect in construction or in management, and they may be abused; they may have been in times past the hot beds of infectious diseases, but now they have reached a better condition and under skilled guidance they be

come the systematized centers of pathological and surgical experience.

ANESTHESIA.

But nothing in the century has happened of greater importance to surgery than the discovery of anesthesia. This had been earnestly desired. Surgeons had long sought for it in opiates, stimulants, mesmerism, etc. In 1846, forty-six years ago, it was my privilege to see the first trial of any importance made of ether in a surgical operation, the amputation of the thigh by Dr. J. Mason Warren in the Massachusetts General Hospital. The event startled the world. We speak of no condition affecting surgery with more pride than of this discovery. It is fitting that we rejoice over it. It belongs to our State. It happened under the auspices of Connecticut medicine. Connecticut has thus done more in this century for surgery than all the world besides, and notwithstanding that we have the endorsement of the American Medical Association and have erected a statue to Wells, yet efforts are strenuously made to give this honor to other men. We heard it asserted in England that Sir James Y. Simpson was the discoverer of anesthesia. To-day we protest and pledge ourselves anew that this legacy transmitted to us shall be sacredly guarded. It is the brightest gem in our centennial crown. No man or country shall pluck it from us. Anesthesia has made surgery possible where fear or pain excluded it.

We have now outlined some of the fundamental conditions and events of surgery that have ripened in this century into abundant fruitage. The greatest of all the discoveries in the surgical world in this century is that of anesthesia, of which we have just now spoken, and this belongs, we say again, to Connecticut. The next of general importance is antisepsis, worked out by Pasteur, Tyndall and Lister, but nowhere more enthusiastically carried out into every detail than by Americans. The surgical events of special interest are many, but we can name only a few of them, and first we mention

OVARIOTOMY.

Ovariectomy belongs to this country. The idea of this ope-

ration had been entertained in other countries for centuries, but had never been put in practice until 1809 by Dr. Ephraim McDowell of Kentucky, and a few years later by our own Nathan Smith, who was ignorant of Dr. McDowell's operation.

This operation was revised by Dr. Atlee of Philadelphia in 1844, and since has been recognized by all nations, and as Dr. Peaslee said some fifteen years ago, it has contributed more than thirty thousand years of active life to woman. It has suggested and lead the way to the various forms of abdominal surgery now so brilliantly done by Senn, Abbe and others.

We have only to read the names of the illustrious men, Sims, Thomas, Emmet, Peaslee, Kimball, Atlee, Dunlap, Miner, and as many more, to see that as a distinctive specialty, Gynecology was initiated and developed in this country.

BRAIN SURGERY,

especially trephining, was often resorted to in ancient times; also after the revival of surgery. Philip William, Prince of Orange, was trephined seventeen times for migraine. But in modern times by the physiological localization of cerebral function and by the pathological differentiation of cerebral lesions, the trephine is guided more unerringly to the cranial effusion or to the cerebral tumor.

LITHOTRITY AND LITHOLAPAXY.

The former was practiced by the ancients, but it was reserved for a distinguished surgeon of this country, Dr. Bigelow, by litholapaxy to crush and remove the fragments by aspiration through the urethra at a single sitting. This was made possible by the demonstration of Dr. Fessenden Otis of New York, that the calibre of the urethra was much larger than was supposed and can be safely dilated. If our limits allowed it would be of interest to note how many surgical procedures—how many important additions to the resources of surgical art have been first made, or improvements suggested, by the surgeons of America in this century. We instance in addition to those already mentioned but a few: Dr. Nathan Smith was the first to trephine for bone abscess; Dr.

J. Mason Warren, to divide the muscles in the arch of the palate to facilitate the union of the cleft after an operation ; Dr. Valentine Mott the first to ligate the innominate artery and concerning whom Dr. Gross says that no surgeon living or dead ever tied so many vessels ; J. Marion Sims' operation for vesico-vaginal fistula ; Dr. Henry Bigelow demonstrated the mechanism of reduction of the hip ; Dr. J. C. Nott of Mobile first removed the coccyx for coccygeal neuralgia. These instances and many more that might be given would be the answer to any descendant of the witty founder and contributor of the *Edinburgh Review*, Sidney Smith, who asks what does the world yet owe to American physicians and surgeons ?

When we talk of medicine and surgery in this little State we feel that we have a common country, and a common inheritance, that we are one together like England, like France. But yet this little State of Connecticut has had her share of glory. Her surgeons dead and alive have ever been in the front. Her illustrious surgical teachers, Nathan Smith and Jonathan Knight, have been to the medical republic what Trumbull, Sherman and Ellsworth as statesmen were to the nation. The roll-call of the great men in medicine, as in all the walks and professions of life throughout the country, would find many whose lineage runs back to Connecticut.

We have now taken a glance at some of the general causes of surgical progress for a century, and having viewed them in their relations to the earlier ages, and having seen that the truth and the facts of earlier history have found their fuller growth and completion in later history, we can but feel, as we contemplate the surgical triumphs already made, and the possibilities inherent in the future, that we are in some way joined to the grander progress of the future, and that all the discoveries, and all the steps of progress to be made, will be so many links to bind more compactly together the centuries past and the centuries to come.

A PRACTICAL ARGUMENT AGAINST THE SOLVENT
TREATMENT OF STONE IN THE BLADDER
BY MINERAL SPRING WATERS
AND OTHER AGENTS.

BY THOMAS H. RUSSELL, PH.B., M.D.,

PROFESSOR OF CLINICAL SURGERY AND SURGICAL ANATOMY, YALE UNIVERSITY.

From ancient times the solvent treatment of stone in the bladder has found occasional advocates, and many remedies have had abundant testimony in their favor. The ashes of snails and egg-shells, quick lime, goat's blood, soap-lye, impure carbonate of potash, various infusions and decoctions of roots and herbs, lime water and soap, and mineral waters have all been earnestly endorsed as valuable solvents, and cases related to prove their marvelous power. After one remedy lost its reputation, another took its place.

About 1739 the remedies of Joanna Stephens had accomplished such wonderful cures that an investigation by a committee of the French Academy gave a favorable report, and the medical profession of England were so assured of their marvelous power that the English Parliament, after a careful investigation, became so fully convinced of their great value that they paid Mrs. Stephens five thousand pounds to disclose the secret of her remedies; and, according to Dickinson, upon the payment of this large sum, the secret was made public as follows, for the benefit of mankind: "My medicines are a powder, a decoction, and pills. The powder consists of egg-shells and snails, both calcined. The decoction is made by boiling some herbs, (together with a ball which consists of soap, swine's cresses burnt to blackness, and honey) in water. The pills consist of snails calcined, wild carrot seeds, burdock seeds, ashen keyes, hips and hawes, all burnt to blackness, soap

and honey. The powder was given in drachm doses; the decoction by half pints. The pills, which were purchased by quarts, were swallowed at the rate of fifty or sixty a day, in weight about two ounces." Prof. Keyes states that, in spite of all this testimony in favor of these famous so-called solvents, four patients whose cures were vouched for by trustees appointed by the government, eventually died with stone in the bladder, as shown by post-mortem examination in each case. "The laity almost uniformly believe that stone may be dissolved by medicine, and tons of pills and powders, rivers of supposed solvents, and oceans of mineral waters have been consumed by the victims either of stone or of their imaginations, in the delusive hope of cure."* "Many patients, on the other hand, who took these remedies, had no stone at all, but being relieved by the alkali of certain symptoms, testified that they had been cured of stone."* Dickinson states,† "After the death of a man (Mr. Gardener) whose supposed cure had helped to make the fame of the medicine and the fortune of the proprietor, no less than nine stones were found in his bladder." These had become sacculated in such a manner as to elude the experienced sound of Cheselden.‡ In spite of the efforts of able modern investigators, after elaborate experiments to ascertain and remove the causes of failure of the solvent treatment, that treatment has continued to lose rather than gain the confidence of the profession.

Very interesting histories of the subject can be found, one by Prof. E. L. Keyes in Ashurst's *Encyclopedia of Surgery*, and another by Dickinson in his work on *Renal and Urinary Affections*, and I wish to acknowledge my indebtedness to them. Recently the subject has been revived, and has forced itself into notice, through the advertisements of mineral spring waters which claim to be solvents for stone. Important facts have come into my possession which should be known by all

*Ashurst's *International Encyclopedia of Surgery*, 1886, pp. 198, 199.

†Dickinson's "*Renal and Urinary Affections*." (1885.)

‡Cheselden was surgeon to St. Thomas, St. George's, Westminster and Chelsea Hospitals. He was one of the most famous surgeons and operators for stone in the bladder who ever lived. He published a work on stone in the bladder. It is recorded that his dexterity in the performance of lithotomy excited the wonder of his contemporaries and that he performed lithotomy in fifty-four seconds.

who have been inclined to have any faith in the treatment of stone in the bladder by mineral waters or other solvents.

In the month of October, 1890, Mr. Reuben L. Roys came to my office to get relief from trouble with his bladder. Upon introducing a Thomson's searcher, I found a very large deposit of stone, which appeared to measure about five or five and a half inches in length. I then advised him to go to the New Haven Hospital. He entered the Hospital on October 11, 1890, and I performed the operation on October 23, 1890. There were present Professors M. C. White, Thacher and Carmalt, of the Medical School; Doctors Hawkes, Lawrence, Ferris, Tuttle, and others.

I decided on supra pubic lithomy as the only operation adequate for the removal of so large a stone. The bladder after being injected with about eight ounces of Thompson's borax solution, was lifted up by a rubber colpeurynter introduced into the rectum, and distended with about three fourths of a pint of warm water. Thus the lower fold of the peritoneum was elevated so that there was ample space between it and the pubes.

Upon opening the bladder, I found a large, ovoid mass of stone, as nearly as I could measure it, five to five and a half inches in length and three to three and a half in breadth, and three inches in thickness. Its shape was quite regular, and fitted very perfectly the contour of the bladder. Upon passing the finger over it, it was just possible to discover that it was not a single large stone, but was composed of six or more separate stones, so dovetailed together that the outline was almost as perfect as if it were a single large stone. It was possible only by very careful examination with the finger to make out any division lines between the different stones making up the bulk of the deposit. The mass was no harder than a phosphatic calculus usually is.

Just behind this large mass were numerous irregularly shaped small stones, about one fourth to one third of an inch in diameter, and it was probably some of these, which lay in close contact with the outlet of the bladder, which the patient had been passing occasionally through the urethra, previous to the operation; but the total weight of this deposit of small stones was probably not more than one fourth of an ounce.

As the mass of stone was so enormous, I considered it advisable to break it up and remove it in fragments, rather than to make the very extensive incision which would be required to remove it entire. This was done with forceps, without difficulty, and the entire deposit extracted.

A double drainage-tube was introduced through the wound into the bladder, and a dressing of sublimate jute and gauze placed around it. Although the patient was sixty-two years of age, his temperature was above 101° only for a very short time, and most of the time below 100° , and his recovery was *very* satisfactory. Since he regained health, nearly a year and a half ago, he has passed safely through a very severe attack of facial erysipelas under the care of Dr. Davis, of Meriden, and one of severe pneumonia under my own supervision. His general health is now fairly good, but he has had chronic cystitis, which could hardly have failed to be permanent after having had stone in the bladder for so long a time.

I have before me his affidavit, dated December 19, 1890, in which he states that he first began to have trouble with his urine when he began to pass small fragments of stone, about three or three and a half years previous. As he was not willing to submit to an operation, as proposed by his physician, he commenced to drink Buffalo Lithia Water. He states that during about three or three and a half years preceding the operation, he took almost no medicine except the Buffalo Lithia Water, and continued to drink it up to the time that he entered the Hospital for operation on October 11, 1890; having, as he estimated, during that time taken one hundred and eighty quarts of it. He further states that he has read the illustrated advertisements of Buffalo Lithia Water in the *New York World* and *New York Sun*, and that he is the patient referred to in those advertisements. Probably all have seen the advertisements of Lithia Water, with illustrations of small calculi passed by patients who have drank this water.

The following communications from Prof. White and Prof. Smith of the Yale Medical School will be of interest:

NEW HAVEN, May 1, 1891.

I was present when Dr. Russell removed by the High or

Supra pubic operation, a large mass of stone from the bladder of Mr. R. L. Roys of Meriden. The operation was performed at the Hospital in this city. I immediately took charge of these calculi and found that they weighed over nine (9) ounces. They were afterward returned to Dr. Russell.

M. C. WHITE, M.D.

DEPARTMENT OF MEDICINE, }
YALE UNIVERSITY, }
September 25, 1891. }

This is to certify that the collection of calculi given to Prof. H. E. Smith for analysis is the same that I took charge of, after removal by Prof. T. H. Russell, from the bladder of R. L. Roys, in the latter part of 1890.

MOSES C. WHITE.

My Dear Prof. Russell:

I have completed my analysis of the calculus which you submitted to me for that purpose, and would report that I took a sample of the material with great care, and have found that it has the following composition:

Uric Acid,	. . . . .	87.64
Ammonium Urate,	. . . . .	3.53
Calcium Oxalate,	. . . . .	4.04
Calcium Phosphate,	. . . . .	.27
Water,	. . . . .	1.09
Undetermined, (Pigment, etc.,)	. . . . .	3.43
		<hr/> 100.00

Very truly yours,

HERBERT E. SMITH.

I have before me a communication from the patient, Mr. R. L. Roys, written this month, in which he states: "From my own experience and observation, I am satisfied there is no remedy for stone in the bladder except a surgical operation."

After a long and intimate acquaintance with Mr. Roys, I believe that he is unusually careful and conscientious in all his statements, and that all his testimony can be relied upon. During the last eighteen months I have endeavored to keep watch of him carefully, and he has impressed me as being re-

markably faithful in endeavoring to carry out exactly and fully whatever plan of treatment was advised. I am persuaded, therefore, that he must have used the Buffalo Lithia Water very faithfully in his efforts to dissolve his calculus by it. In his affidavit he states that he began to drink the Buffalo Lithia Water about three or three and a half years before making the affidavit, and continued to drink it until he entered the Hospital for operation in October, 1890; and during that time he took almost no other medicine. It would appear, therefore, that the trial of the Buffalo Lithia Water was as *prolonged* as anyone could wish, and that it was faithfully used.

As the patient states in his affidavit that he first began to have trouble with his urine only about three or three and a half years before my operation, it would appear that his calculi increased with remarkable rapidity *while* drinking the Lithia Water, for Prof. White found that the weight removed at the operation was over nine ounces.

The physician under whose care Mr. Roys was, previous to the operation, is one whose reliability and skill is widely known, and his diagnosis and general knowledge of the case, *as far as he examined the patient*, proved to be remarkably accurate, even to the chemical composition of the stone. It was only after much urging that he prevailed upon Mr. Roys to consent to allow the operation to be performed. I believe that he was only temporarily misled, as any of us might easily have been, by the patient's statements at one time that he was passing many fragments and that he was having little, if any, pain. This was supposed to indicate, until he had an opportunity to examine the bladder and found stone, that the stone had disappeared, and eventually the case of Mr. Roys was published, in good faith by all concerned, as an advertisement of Lithia Spring Water. There was no intention on the part of anyone to mislead; but it was only, as I understand it, an unintentional error on the part of the patient in thinking temporarily that he was being cured, and his statement misleading others, which led to the case being published.

The operation convinced me that originally the calculi were small enough to roll freely about in his bladder and cause

pain ; but as they grew to large size and coalesced to form a great mass, accurately adjusted to the contour of that viscus, motion of the stones was no longer possible, and he became, therefore, more comfortable. In other words, in my opinion, his relief was not owing to the disappearance of the stone due to Lithia Water, but to its rapid growth, causing it to attain such great size that it could no longer roll about in his bladder.

The explanation of the fact that Mr. Roys passed many fragments *while* drinking Lithia Water appears plain. Mr. Roys stated that he passed fragments *before* commencing to drink Lithia Water, and the condition of things that I discovered in the bladder at the operation convinced me that the increased rapidity with which he passed fragments after drinking Lithia Water was only in proportion to, and in consequence of, rapid increase of calculus material in his bladder.

At the operation, there was not only this large mass of stone, but in the *base* of the bladder and *adjacent to its outlet* lay a large number of small calculi, which seemed to be independent formations and not to have formed part of the original mass ; and it was these which, lying against the outlet of the bladder, were ready to be passed out at any time, even without solvent remedies.

It is true that the large mass was somewhat softer than uric acid calculi usually are, but any calculus deposit increasing at the rate of eight or nine ounces in about three or three and a half years would, I believe, be very much softer from its *rapidity of growth*, even though no solvents were used, than a calculus formed at the ordinary very slow rate.

I believe, therefore, that the lack of hardness of the mass was due to its very rapid growth, and not to solvents. For if solvents had sufficient effect upon it to soften it, would it not seem evident that those agents would have diminished the size of the mass, or at least retard its growth?

As it would probably rarely happen that a case like this one of Mr. Roys could be found, in which the long continued and probably careful use of agents claiming to be solvents of stone in the bladder, and in which the observations could be made complete by subsequent operation and complete analysis of

the stone be made by a professor of chemistry, it would appear that we have in this instance an unusually valuable case for careful study.

I mention this case to take it as a *text* for an argument against any reliance being placed upon the solvent treatment of stone in the bladder *by any agents or plan now known*, to which so much attention has been called in the numerous advertisements published widely through the medical journals and daily press. So far as my observation goes, the cases cited by those who claim to produce solvents for stone are few. It is not likely that cases would often come under observation where their faulty evidence could be disproved by subsequent operation and analysis of the stone, as in this instance. I believe that claims of actually dissolving stone in the bladder are based more upon the testimony of *physicians* than of surgeons, and it is surgeons rather than physicians who are likely to have experience in dealing with such cases. A physician's testimony as to the absence of stone in the bladder would be of even less value than a surgeon's testimony about many rare medical lesions.

Considering their claims critically, they amount to this:

(1). That the patient has had symptoms of stone.

Any practitioner not *thoroughly* accustomed to explore the bladder for stone, and especially if he uses only the *ordinary steel sound*, is very likely to be misled into supposing a stone is present when there really is none. Ericsson calls attention to this point, and states that surgeons are liable to mistake a hardened and fasciculated bladder, with its ridges somewhat encrusted with phosphatic sabulous matter, for a calculus; and he says that the difficulty in diagnosis in some cases is great, and states that Velpeau was acquainted with four instances and Sir Astley Cooper with seven, in which patients had actually been cut for stone and no stone found. Even the famous lithotomist Cheselden—one of the most noted operators for stone—*actually performed lithotomy on three patients in whom he found no stone*; and the same has been recorded of other noted surgeons. I myself know of one very able surgeon apparently mistaking the contact of the instrument with one of the bones of the pelvis as a case of stone. It is therefore

proper to question, in those cases in which a physician believed that a stone was originally present and in which he could not find it after solvent treatment, *whether the stone was really present at any time*. I believe that they were simply errors of diagnosis, such as are known to be occasionally made, even by the most expert specialists.

(2). The patient, at some subsequent times, passed small calculi or portions of calculi, while using some agent supposed to be a solvent.

I believe that every surgeon who has had much experience in dealing with cases of stone in the bladder will have noticed that some patients, who have never used any of the so-called solvents for stone in the bladder, have at various times passed small fragments of stone. In this case which I have cited, Mr. Roys stated that he passed fragments before using Buffalo Lithia Water, and the passage of these was one of the *first symptoms* which attracted attention to his bladder. Probably there are very few medical men, either physicians or surgeons, who have not had some patients bring to them at times little gritty particles, of greater or less size, which they have passed without having had any treatment for stone. Any who have not been convinced by personal observation that *calculi may disintegrate spontaneously without solvents*, can have all their doubts removed by referring to what Prof. E. L. Keyes, one of the best authorities on stone in the bladder, has written on the subject.

Ord states, that the nucleus of a calculus may undergo such changes as to cause it to act like "a bursting charge in a shell" and thus break up the stone, and produces evidence to prove his statements. He believes that the internal force is the swelling of the colloid nucleus by the imbibition of fluid different from that in which the stone was formed.

Dr. Francis Bacon, formerly for many years Professor of Surgery and surgeon to the Hospital in New Haven, informed me that he knew of a number of instances of spontaneous disintegration of vesical calculus, one of whom was a man in whose bladder he had detected a very hard stone. As the operation was delayed, Dr. Bacon subsequently prescribed some anodyne rectal suppositories to relieve pain. The patient

soon returned and told the doctor that the suppositories had cured him of his stone, for after beginning to put the suppositories in his rectum the stone broke into a number of fragments and came away. The fragments which the patient exhibited showed fresh lines of fracture, and could be fitted together to as to form a complete, hard stone, and no portion appeared to be missing except the minute nucleus, the outlines of which could be traced in the fragments. Dr. Bacon said that the stone was as completely shattered as if the minute nucleus had been a miniature blast of dynamite in its center. Although it was evident to the Doctor that it was a case of *spontaneous disintegration*, yet the patient was so *convinced* that the suppositories in his *rectum* broke the stone in his *bladder* that he would probably have written as sincere a testimonial to the power of those suppositories to dissolve vesical calculus as others have for Lithia Water or other agents which they were taking when their calculi disintegrated.

I have before me the following interesting letter from Dr. Leonard J. Sanford, for twenty or twenty-five years Professor in the Medical Department of Yale University:

Professor T. H. Russell, M.D.:

Dear Doctor—About ten or twelve years ago, a man sixty or more years of age, having stone in his bladder, was under my care. He was well and favorably known in the community and his statements could be relied upon. As I had no faith in any plan of solvent treatment for such cases I was not only careful to avoid all remedies which could be supposed to have such action, but took especial pains to warn him against such treatment, and I know that he did avoid using such supposed solvent remedies. Without medical or surgical treatment to produce the result, he commenced to pass fragments of stone and passed them so freely and rapidly that he showed me a teacupful of fragments and said he had as many more preserved at home. After this spontaneous evacuation of fragments the symptoms of stone disappeared so completely that the patient and myself believed his recovery was complete. His relief from symptoms of stone continued for a long time

and I believe permanently. The cure was effected by spontaneous disintegration of the stone or stones.

Sincerely yours,

LEONARD J. SANFORD.

While spontaneous disintegration of vesical calculi is probably not of frequent occurrence nor can be expected as a probable mode of relief in any case, yet I believe that it cannot be doubted that it has occurred in numerous instances.

When we consider how prone the American people are to use every remedy advertised in the papers, and how many thousands suffer from symptoms of stone, or suppose that they do, and are probably using these so-called solvents, I believe that it could hardly fail to happen that the proprietors of these remedies for stone could advertise a few cases in which spontaneous disintegration had occurred *while* the patient happened to be using their remedies. It seems surprising that they are not able to publish more such cases. I do not remember to have seen published a well authenticated case of success with solvents for stone from any well known surgeon who had had such extensive experience in cases of vesical calculus as to make it certain that his diagnosis was correct. It is well known that the most expert specialists have made very noticeable errors of diagnosis in sounding for stone.

Surely, then, considering that patients can have disintegration of their calculi and pass fragments *without taking any solvents*, we should be slow to be convinced that, because the same thing takes place *while* taking them, disintegration and relief from symptoms is due to the administration of solvents. I believe it entirely possible that disintegration would have taken place in the reported cases without the administration of the supposed solvents.

(3). That the physician subsequently failed (if he made the attempt) to find any trace of stone in the bladder.

So far as I know, all the cases mentioned in the advertisements of various solvent remedies, where stone could not be found in the bladder during life, after the administration of solvents, have been reported by physicians rather than surgeons. Physicians are not likely to have the most approved

apparatus for detecting stone in the bladder, and they might easily, therefore, if they use ordinary steel sounds for exploring the bladder, be misled into believing that the stone had entirely disappeared. It is well known that even surgeons, who would be supposed to be provided with all the modern apparatus for searching for stone, occasionally fail to find one, even when subsequent events prove that one or more were really present.

I occasionally meet on the street an old man, who came to me about seven or eight years ago, stating that he had a short time before been to a doctor much older than myself, and to whose skill in operating I have been a witness, and that that surgeon had told him, after a careful examination of his bladder, that he had no stone. Upon sounding his bladder, I detected a large calculus deposit, and, shortly afterward, removed by perineal lithotomy six hard calculi, the aggregate weight of which was three ounces. The calculi were apparently all uric acid. The man made a good recovery.

Some years ago an old gentleman, whom I knew well, was successfully operated upon for stone in the bladder, after he had been told that he had no stone, by a surgeon whose skill in cases of this kind is very well known both in this country and abroad.

Prof. Keyes states that: "Notwithstanding the accurate means of investigation now possessed by the surgeon, it is still possible occasionally to overlook a stone, and in a doubtful case at least two examinations ought to be insisted upon before giving a final opinion; and the second of these examinations should be practised with the patient under the influence of ether; and should be made with the searcher, washing bottle and tube, and lithotrite. Even then an error may be made; a small tumor, encrusted with crystals, may be declared to be a stone; or a calculus may be overlooked, lying in a cyst, sacculus, or pouched ureter, or shrouded in a blood-clot or mass of viscid mucus.

"The fact, moreover, is of record that the very best surgeons (Cheselden, Morgagni, Abernethy, Dupuytren, Chopart,) have failed to find large stones in the bladder, which an autopsy has revealed, while others, equally distinguished, have

cut for stone and found none. * * * Dupuytren, Roux, and Crosse, too, committed like errors.” *

The possibility of overlooking a stone, *even after the bladder is cut open*, as in lithotomy, is noticeable. A surgeon of great ability and experience in such cases told me of an operation in which he removed by lithotomy one or more calculi, and before leaving the patient he very carefully explored the bladder *through the wound*. He found it, as he supposed, empty, and the patient was as comfortable as could be expected. Yet when the patient sat up for the first time symptoms of stone returned promptly, and the same surgeon was obliged to repeat the lithotomy for a stone which he admitted he had failed to find when removing the previous ones.

Surely, if such an experienced surgeon failed to detect a stone, with all the advantages of a large lithotomy wound to explore through, how great is the possibility of error in diagnosis when one not specially expert in such cases explores through the urethra with an ordinary steel sound and not with the most recent and improved apparatus!

Van Buren and Keyes, in their work on Genito Urinary Diseases, state that the solvent treatment of stone is practically powerless to contend with vesical calculus (p. 328); and that “if stone in the bladder is large, it will be folly to attempt to dissolve it, either by internal medication or vesical injection. Efforts in both of these directions have been made for centuries, but in no single reported case with demonstrated success. In all of the cases reported cured where calculus was detected by a competent authority, before the treatment, when an examination after death could be obtained, the bladder was still found to contain stone.”

Prof. E. L. Keyes in Ashurst's Encyclopedia of Surgery states: “There can be but one deduction regarding the practical value of the solvent treatment of stone, namely, that it has no general applicability; and yet in spite of all evidence, and of all history, the virtues of various pills and waters are proclaimed to-day by the proprietors of these nostrums * * * as boldly as if Mrs. Stephens and her calcined shells had never existed, and the advertisements of mineral springs

* Ashurst's Encyclopedia of Surgery, p. 191.

abound in seemingly well attested instances of cure of stone. A large stone cannot be dissolved, if for no other reason, on account of its animal matrix; for, even allowing that the penetrating influence of the solvent could decalcify the outer layers to a considerable depth, yet the tenacious organic skeleton would remain adherent, arrest further solvent action, and form the best possible bed of colloid for new stone formation," (p. 201). *The same authority states: "No pretense is now made in any scientific quarter that any stones can be dissolved by internal treatment except those composed solely of uric acid, urates or urostealith."*

As far as I have observed, only one other case besides that of R. L. Roys has, during recent years, been as widely and prominently published and advertised as evidence of the solvent power of Lithia Water upon stone in the bladder. This other case was from the pen of one of the most worthy and promising physicians in this State. As the *full* report of his case, as quoted on one of the advertising pages of the *New York Medical Journal* for March 7, 1891, contains the statement that *chemical examination of fragments passed by the patient showed that the deposit was entirely of the triple phosphate variety*, and for other reasons, I am sure that any one who will read all the evidence in this paper which I have written and the full report of that case, and, if possible, tasting and otherwise examining the solvent used in that case, will be *fully convinced* that it could not possibly have been effected by solvent action of Lithia Water, and that it was probably a striking instance of *spontaneous disintegration* like that of Dr. Leonard J. Sanford's, which I have mentioned on a previous page of this paper. I believe that all of the highest authorities are agreed that *phosphatic vesical calculi especially* cannot be dissolved by any agents, particularly alkalis, introduced into the stomachs of the patients. It seems especially impossible that only four gobletsful of the Lithia Water per day for three (3) days could possibly have produced such very extensive disintegration of such a large calculus.

I know of no higher authority on therapeutics, or any physician whose opinion I would value more highly, than Prof. H. C. Wood, and yet in the eighth edition of his work on Thera-

peutics, published in 1891, pages 735 and 736, he states: "*Notwithstanding it has been claimed otherwise, I think it indubitable that as yet no practical measure has been devised of dissolving a calculus when once formed.*"

It is a great mistake to suppose, because a stone *outside* of the bladder,—especially one that has been kept a long time exposed to the air—undergoes solution when exposed to the action of solvents, that that solution would go on with the same certainty when in the bladder as a result of mineral waters, etc., administered by the mouth. We must remember that a stone *in* the bladder is enveloped with a coating of mucus, and that this coating of mucus and pus forms a great barrier to the action of solvents upon it, and that the gelatinous animal matter or matrix which forms a part of the calculus would resist solution far more effectually in its fresh state in the bladder, than after it had undergone decomposition and partial disappearance after removal from the body.

If a stone just removed from the bladder has been kept in a closed bottle, a very offensive odor will demonstrate the decomposition of the animal matrix, and will prove that this matrix, which I believe to be the greatest barrier to solvent treatment, gradually disappears after removal from the bladder, and is largely absent from stones long removed from that viscus.

It is very erroneous, therefore, to consider that the action of the solvent on a stone in the bladder is at all proportioned to the action of such agent on a stone which has been months removed from the bladder. I think that most surgeons will have noticed that, weeks or months after a stone has been extracted from the body, it becomes more friable, more liable to disintegration than when in a fresh state, this change being probably due to the decomposition of its gelatinous or albuminous matrix. Dickinson has found by experiment that even distilled water will, outside of the body, gradually effect solution of a fragment of *old* calculus composed principally of about nine tenths uric acid and urates, and one tenth of phosphates.*

* After the reading of this paper, Prof. Carmalt, in his interesting discussion of it read a report of some very noteworthy experiments by Herbert E. Smith, Professor of Chemistry, showing that distilled water dissolved uric acid to quite a noticeable extent, and that New Haven city or hydrant water showed a far greater and very marked solvent action.

I have found that an old fragment of vesical calculus, apparently composed of uric acid and phosphates, showed very marked evidence of softening and disintegration after about four and a half days' immersion in New Haven city or hydrant water, in a clean, covered glass jar, in my office in the month of May. This city or hydrant water is a mixture of the waters obtained from a lake near the city and from large storage reservoirs formed by the erection of dams across two rivers of surface-water emptying into Long Island Sound. It is distributed by underground street mains or pipes, throughout the city and suburbs, to supply the eighty thousand or one hundred thousand inhabitants with an abundant supply of water for all purposes. I do not know that this water differs from any other good, pure river water. Although it will dissolve or disintegrate *old* calculi outside the bladder, it is pretty evident that it has no such action on stones in the bladder, for I have removed vesical calculi by lithotomy and litholopaxy, (at one operation over three (3) ounces of what appeared to be uric acid from a patient who is probably still living to speak for himself) from inhabitants of this city, who had probably year after year drank this water and had their food cooked with it and their faces and hands and bodies and clothes washed with it regularly.

If any physicians are still inclined to erroneously believe that because any particular water or solvent will dissolve or disintegrate old calculi *outside* the bladder they can be made useful to dissolve stone *in* the bladder, I would suggest that they negotiate with the Secretary of the New Haven Water Company, which supplies this city with the above mentioned hydrant or street water. He told me that he would be pleased to furnish it at from *one or one and one half to three cents per hundred gallons*, according to quantity ordered.*

Is it not evident, therefore, that experiments by mineral waters and other solvents on old stones outside the bladder are misleading and almost valueless to indicate what their action would be on stones in their natural condition *in* the bladder? And that no experiments could be devised upon

* For further information upon the solvent power of this hydrant water upon uric acid Prof. Smith or Prof. Carmalt may be consulted.

stones outside the body which would be under precisely the same conditions and give the same results as would be derived from observations upon the living patient with stone in his bladder?

I had intended to make this paper more complete, by experiment upon different kinds of vesical calculi outside of the bladder, conducted with as much regard for heat and rate of flow of fluid as would be possible, to make the results show what would take place in the bladder of the living patient; but I have been so firmly convinced that all experiments conducted outside the bladder are misleading that I have abandoned the undertaking. It would be obviously impossible to have present in these experiments the same amount of vesical mucus and pus, and the same varying conditions of alkaline or acid urine which would envelop the stone, and the same quantity of fresh, undecomposed animal matrix in the stone itself, as a barrier to solvents, as would be present in the bladder of the living patient.

Even though we may feel certain that a stone is composed only of uric acid or urates, we must remember that calculi are frequently found to consist of layers of different formation. If at any time the urine temporarily contained an excess of oxalate of lime or phosphates, so that there be a layer of this formation deposited over the stone, all further solvent action must be absolutely impossible; and when long present in the bladder, in the majority of cases, it almost invariably sets up cystitis, which results in ammoniacal urine and decomposition of phosphates, so that such a stone is more than likely to be coated by this layer of phosphates, which cannot be dissolved.

The most scientific and complete modern experiments, by an advocate of the solvent treatment of vesical calculus, so far as I know, have been published by Dr. William Roberts, in his volume on Urinary and Renal Diseases, edition of 1872. Although his elaborate experiments were largely upon calculi outside of the bladder, and therefore would, I believe, tend to give too favorable evidence for the solvent treatment, I wish to quote his conclusions, notwithstanding he aims to advocate the solvent treatment.

He states that there is not by any means a general possibility of substituting a solvent for a mechanical treatment for vesical calculi, and that ammoniacal urine or a layer of phosphates or oxalate of lime upon the stone presents an absolute barrier to the action of all solvents given by the mouth and stomach. He also condemns their use for large stones. He considers it necessary to administer forty to sixty grains of acetate or citrate of potash every three hours, continuously, incessantly and rigorously for a long time, in order even slowly to effect solution of vesical calculus under the most favorable conditions. I believe that the cause of failure of the solvent treatment in the case of Mr. R. L. Roys was not due to the patient's urine being ammoniacal; for a written statement from Prof. Smith and from my assistant, Dr. Lockhart, who has had immediate charge of Mr. Roys, and my own observation have convinced me that the patient's urine, when fresh, is acid and not ammoniacal; and as his cystitis still continues, I believe that his urine, if it had been ammoniacal in the past, would probably be so now. I believe that Mr. Roys' case was a peculiarly favorable one for the so-called solvent treatment to show its power if it had any, and that it failed because the solvent treatment is practically unworthy of confidence for vesical calculus.

Both Roberts and Dickinson consider the citrate of potash preferable for the solvent treatment. The last edition of the National Dispensatory states, of Carbonate of Lithia (page 932), that "on the whole, there appears to be no substantial ground for a belief in its alleged virtues in gout and calculous diseases. Of late years sundry mineral waters have been vaunted as efficacious in these affections, because they contained from $\frac{1}{100000}$ grain to one grain in a pint of the spring water. Such pretensions tend to bring the art of therapeutics into discredit."

Dickinson states (page 1010), "It would appear that in ordinary circumstances the alkalinity necessary to the solution of calculi cannot be long maintained by lithia without such constitutional disturbance as would call for its discontinuance." While if we give too little alkali, we fail to dissolve the stone because the amount of alkali is too small, Dickinson

calls attention to the fact that if we give too much, the stone may become incrustated with an insoluble alkaline biurate. Does it seem probable that in modulating the solvent treatment, we can keep the doses carefully adjusted so as to avoid both these sources of failure? for it would seem evident that the solvent treatment may fail from either giving too little or too much alkali. Even if the solvent treatment was capable of dissolving stone in the bladder, *are not the chances of success infinitesimal* if we simply direct the patient to *begin* to take alkaline waters or medicines and leave it to *his* ignorant whims how much or how long he should dose himself, and pay no further attention for weeks, months or years to varying reaction and composition of his urine?

Dickinson, therefore, after a careful examination of the results of other investigators, and after his own careful experiments, states: "*To sum up the solution of stones, whether in the bladder or kidney, is not yet within the range of practical medicine,*" and refers to the solvent method of treatment as a "TEDIOUS AND WORSE THAN UNCERTAIN METHOD." (Page 1014.)

I have before me an advertisement of Lithia Water, which states: "A Powerful and only Known Solvent of Stone in the Bladder. It dissolves both Phosphatic and Uric Acid Sediment."

Concerning this claim, that any one agent can dissolve *both* uric acid and phosphatic sediment, I quote from the work of Coulson on Diseases of the Bladder and Prostate Gland, edition of 1881, page 536: "Calculi composed either of uric acid, cystine or urostealith are alone amenable to the action of solvent remedies taken internally. Oxalate of lime resists any solvent which can be introduced into the bladder by any method, and the phosphate of lime and the ammoniaco-magnesian phosphate require an acid which can be introduced only by injection."

And Roberts, in his work on Urinary and Renal Diseases and Urinary Deposits, edition of 1872, page 309, referring to the alkaline treatment, states: "*My experiments prove unequivocally that it is wholly powerless in all cases where the urine is ammoniacal; also in all cases of oxalate of lime calculi, and in every variety of phosphatic calculi.*"

Dickinson states, in his work on Renal and Urinary Affections, page 1012, "For practical purposes we may exclude the rare cystine stones, the solution of which has as yet received little attention, and regard as amenable to the alkaline treatment only those calculi which consist of uric acid and the urates."

When, therefore, as uric acid is soluble in alkalies and phosphates in acids, any physicians publish cases to prove that any one agent or solvent can dissolve *both* uric acid and phosphatic calculi in the bladder, or any advertisements of Lithia Water claim that one agent, Lithia Water, will dissolve both uric acid and phosphatic sediment in the bladder, does not such claim afford us abundant reason to believe that they must have been mistaken?

In view of the unreliability of the solvent method of treating stone in the bladder, it may be seriously questioned whether any physician is justified in advising, or even authorizing, a patient to trust to this mode of treatment, or to any method of treatment not strictly surgical; for it must not be forgotten that the presence of stone in the bladder, however small, is, as long as it remains there, a very serious menace to the patient's health and life. By prompt and early operation only is the disease entirely cured and the patient made well. If the operation is not performed early and time is wasted in medical treatment, the stone acts as any other foreign body would in the bladder, and sets up a subacute, followed by chronic, cystitis; the patient is subjected to unnecessary suffering, and has chronic and permanent vesical catarrh. The stone becomes encrusted with phosphates and resists further solvent action, if there was any. Chronic catarrh of the bladder results in extensive inflammation of the kidneys, and costs the patient long-continued suffering and finally his life.

Even though the operation be not delayed long enough to result fatally, every day of unnecessary delay in the performance of the operation increases the danger that the patient will, even after operation, continue to suffer more or less from permanent cystitis from having carried the stone so long in his bladder; the severity and permanency of this cystitis being somewhat proportionate to the length of time the operation

has been postponed and the calculus been allowed to remain.

It is the physician's duty to urge upon every patient suffering from stone in the bladder, no matter what the composition of the stone may be, immediate operation. Even if the solvent treatment were feasible, the need of such a plan of treatment is diminishing; for I believe that it can be demonstrated that the improved methods of operation and the employment of antiseptics have diminished the mortality after operation for vesical calculus, and that still greater improvements may be looked for in the future. For small or medium sized stones, litholapaxy is applicable, and Sir Henry Thompson reports that this new crushing method has reduced his mortality in crushing, nearly one half. For large calculi, the high or supra pubic lithotomy has been so greatly improved and its dangers diminished by the aid of the rectal colpeurynter and the distention of the bladder by antiseptic solutions, that when new statistics can be obtained, I believe that they will show a greatly lessened mortality.

If the patient refuses to submit to surgical treatment and states his intention of adopting any plan of solvent treatment, it is the physician's duty to make frequent microscopic examinations of the urinary deposit, in order to find what urinary salts predominate; and if at any time he finds that the phosphates or oxalates are predominating for any length of time, he should consider the administration of alkaline waters, or alkalies in any form, as useless; because the stone has in all probability become coated with a layer of oxalates or phosphates, which form a complete bar to further solvent action. He should also remember that when the urine becomes ammoniacal, all attempts at solvent treatment are, as stated by Roberts, wholly useless.

It is well known that the predominating salts in the urine are not always of the same kind, and that although the patient at first may have a calculus which is of uric acid—a kind most amenable to solvents—sooner or later the presence of that stone in the bladder will probably indirectly cause the deposition of a formation of another kind, not capable of solution.

(4). That the patient said that he felt better.

As to the unreliability of the patient's sensations or state-

ments that he feels better as a result of solvent treatment, it is proper to state here that this patient (Mr. Roys) at a time when his history of the case would indicate that the stone was very large and rapidly increasing, really believed that he was improving and told his physician that he was much better or was entirely well; whereas, the subsequent history of the case and result of the operation seemed to prove conclusively that his stone was rapidly increasing in size. Although this patient seemed to be very careful in his statements, yet it is fair to consider that there must have been a large element of imagination, or that it was very easy for any patient to be mistaken as to the disappearance or growth of stone in the bladder.

Several months ago, an old gentleman came under my care as a patient, for relief of trouble with his bladder. The examination of his bladder being somewhat delayed, I prescribed an infusion or decoction of *triticum repens*. He soon reported that he was improving so steadily and his symptoms became so slight, even though walking about, that I thought it no longer necessary to explore his bladder; but before letting the case go from under my care, I did make what appeared to be a rather unnecessary examination with a Thompson searcher. To my surprise I found a large, hard stone, which, after I had successfully removed it by lithotomy, was found to weigh about one and a quarter ounces. Thus it can be seen, that a patient's statements as to the condition of his bladder or the stone in his bladder cannot be depended upon, and that patients can be led to think that they have been greatly improved by simple vegetable remedies which could not possibly act as solvents of stone.

Alkaline remedies, including mineral waters, are useful in various diseases of the urinary tract; but I believe that they should not be relied upon for the purpose of dissolving stone in the bladder.

It is from a conviction that much harm is likely to result, directly or indirectly, from the claims of those controlling the sale of so-called solvents for stone in the bladder, and the failure of other physicians to give evidence in opposition, that I have felt it an absolute duty to caution the profession

against indiscriminate reliance upon these agents in case of vesical calculus. I believe, with Dr. Lindsley, that the profession in general are too much influenced in their use of remedies by newspaper advertisements and circulars, and that to too great an extent their ideas of therapeutics are derived from such sources. Every physician should hereafter remember that when he writes, even for a medical journal, a favorable statement concerning any proprietary medicine or other agent, the proprietors of that remedy are likely to publish his name and statement broadcast as a common advertisement in newspapers and circulars, to increase their sales and profits, and that he is powerless to prevent them from doing this; and if his statement prove to be incorrect the consequences are liable to be unfortunate and very far reaching. We cannot, as a profession, be too careful how we endorse any and all proprietary remedies. I do not blame any owners of any proprietary remedies or agents for advertising as many physician's testimonials as they can obtain. A strong sense of duty has actuated me in writing this paper, and I have done so with the kindest intentions and motives toward all, and in no fault-finding spirit toward those who have held contrary opinions.

I wish especially to acknowledge my indebtedness to Dr. Davis of Meriden, and to Dr. Bacon and Dr. Leonard Sanford, Prof. Smith and Prof. M. C. White, and to the writings of Prof. E. L. Keyes, of W. Howship Dickinson, F. R. C. P., physician to and lecturer on medicine at St. George's Hospital, and of William Roberts, F. R. C. P., physician to the Manchester Royal Infirmary and lecturer on medicine in the Manchester School of Medicine.

THE OPERATION FOR STONE IN THE BLADDER. SHALL IT BE THE HIGH OR THE LOW?

BY WILLIAM C. WILE, A.M., M.D., DANBURY.

The operation for stone in the bladder is as old as surgery itself, and is mentioned by Hippocrates as having been practiced by certain itinerants of his day, but the success of this procedure was so small that he required his pupils to take an oath to never cut for stone in the bladder. It was Celsus, however, who first described and advocated cutting for stone, but said it was applicable only to persons under fifteen years of age, while Mariano Santo, however, at a later period operated at all ages, and to-day an operation practically the same as the median is called the Marian. Since this time lithotomy has been practiced in a variety of ways upon both sexes, and in suitable cases is considered a legitimate surgical procedure. The methods of operating by the perineum are very numerous, but it is not my intention to-day to enter into an elaborate description of them or of which of these personal methods are best, for each operator has his own idea about it, using one or the other to suit the individual case before him; but rather to briefly review the evidence for and against these operations which are performed above the pubes, called supra pubic, and those performed below, or perineal. According to Heath, Peter Franco first introduced the supra pubic operation for stone in 1541 and published it to the world in 1571. In the first hundred years great prospects of success were held out, but owing to so many failures it died out. It was revived and adopted amongst others by Cheselden, who practiced it with great success, but dropped it to become an advocate of Raw's operation. Neil then adopted it, and from that time to the present it has become with many celebrated surgeons their favorite method of operation in the majority of

cases. Sir Henry Thompson is to-day, and has been for several years, one of its foremost advocates. In fact, the very first time I saw this operation done was in the private hospital of Sir Henry Thompson in London, where he honored me with inviting me to witness him perform it three times. The claims made for the operation are: 1, Little danger of hemorrhage; 2, least dangerous to life; 3, it suits all sizes of stones, and 4, that there are no technical or anatomical difficulties in the way of its execution. I have performed this operation seven times, six for stone and once for broken catheter. Three of these cases died and four recovered. While not a large array of cases to base any very definite data on, still I have found that all of the points of superiority above taken do not hold good, with the exception of the small amount of hemorrhage. In almost all cases of stone in the bladder, when they are finally diagnosed and apply for an operation, they have been suffering for a long time. The bladder has become atrophied from the constant irritability due to the presence of the foreign body, and the walls have become degenerated till in many if not most instances they have become very friable, tender, and easily broken into. All authors agree that the bladder should be filled with water till it rises above the pubes. Most advise besides this a rubber bag introduced into the rectum and then inflated to further push the bladder up so as to be within easy reach of the operator. It is here I want to raise my voice in warning. But few bladders which contain stones of any size at all will stand this sort of treatment. It will rupture and the contents will be poured into the abdominal cavity with probably fatal results, as it did in one of my cases. The bladder burst and the patient died. Again, authors and lecturers on surgery tell us that it is a simple matter to make the incision; look out for the peritoneum, tuck it up, put the threads into the walls of the bladder, make the incision and remove the stone. This all looks very simple and easy, but you are, in a good many cases, liable to find that peritoneum just where the books did not lay it down to be, and your knife finds its way into that cavity before you know it. I have seen this done twice in the last year in this operation performed by two of the most prominent surgeons in the country. Instead

of the peritoneum simply covering nicely the base of the bladder with a little fold dipping down on the top, you find that the fold has been carried forward, has a deeper dip, and you do not always recognize it in time to save its continuity. This is especially apt to be the case in obese or fat people with big bellies.

I will illustrate the point in reference to the removal of large stones by narrating a case and showing you a specimen. I was consulted about four months ago by a patient who had been suffering from irritation of the bladder with frequent urination, for four and one half years. His case had been diagnosed as chronic cystitis, and he had been treated for that disease by a number of physicians, as well as drenching his system with innumerable patent medicines. On passing a sound I immediately came in contact with a stone, and by manipulation I found it to be a very large one. He was a great sufferer and was anxious for an operation, which I decided to do at his residence. In thinking the matter over, I decided to do the high operation, as the stone seemed to be so large that it would be next to impossible to secure it by the lower operation. The day for the operation arrived with a cold rain. Disliking to open the abdomen on such a day, I decided to do the left lateral operation, which I did, removing with but little difficulty this stone. Its weight, when green, was three grains short of three ounces. I am quite sure that a stone of this size would come under the category of larger stones, by those who advocate the supra pubic method.

Dr. C. W. Dulles, of Philadelphia, collected a series of four hundred and sixty-five high operations for stone in the bladder, which he published, I think, in the *Medical News*. Of these three hundred and thirty recovered and one hundred and thirty-five, or one to every 2.44, died. Of another series of one hundred and four operations at St. Peter's Hospital, thirty-one died, or one to 3.35. In the low operation by the medium lithotomy, a series of two hundred and five cases by American surgeons, one hundred and ninety-six recovered and nine, or one to 22.77 died. By the bi-lateral method, out of twenty-three, four, or one to 5.75 died, while of two hundred and thirty-eight operations in St. Thomas, St. Bartholomew,

Guys, St. George and St. Peter's London, by the lower method, forty-seven died, or 19.7 per cent.

In looking over these statistics and in taking my own cases by the low operation, thirty-five with seven deaths, leads me to believe that unless the stone is *unusually large*, the lower method will be the accepted method by conscientious surgeons.

HYPERTROPHY OF THE PROSTATE.

BY NATHAN MAYER, M.D., HARTFORD.

I fear the title of my paper is misleading. Enlargement of the Prostate has, in modern surgery, grown to be a subject of such dimensions that, to treat it in entirety, would claim more experience than I possess, and more time than you can now grant. True, no one can touch the subject without, in some measure, pointing out the advances that have recently been made in the knowledge and the treatment of the difficulty. But it is not on fully developed hypertrophy that I intend to read. My special selection is: Beginning Hypertrophy of the Prostate, and such treatment as I have found of advantage in controlling its symptoms, and possibly staying its advance. Before attacking this definite point permit me to skim over the subject as a whole in a rather sketchy manner.

It is twenty years ago since the structure of the prostate was studied more closely and with more profit than ever before. The prostate is a glandular body inclosed in a thin fibrous capsule, which surrounds the urethra from its issue out of the bladder for one and one quarter inches of its course, and which furnishes a glairy fluid to float the semen. It is composed of two distinct lobes, like the halves of the ace of hearts or of a chestnut held accurately together, posteriorly by a commissure of less thickness than the body, and anteriorly by one still thinner. These lobes do not consist of glandular structure mainly, but of a large quantity of unstriped muscular fibre, and of connective and some plastic tissue, and are as much muscle as they are gland. Nor is the organ a single gland, except in the sense of many separate little glands grouped together. And most of these are clusters in themselves, and have their own outlet, twenty or thirty, that open on the floor

of the urethra. The gland is tunneled from behind forward, by the common ducts of the seminal vesicals and the vasa deferentia. These enter at a depression just below the neck of the bladder and open into the urethra at the verumontanum. The urethra itself perforates the prostate with one half of its thickness in front, and two thirds behind it.

On the urethral aspect, where the trigonum of the bladder, formed by mouths of the uretes and the little uvula at the neck points its apex, arises a noticeable line which leads forward on the floor of the urethra and swells into a sloping projection one half an inch high, the verumontanum. The anterior aspect of this elevation has a vertical opening into a small cavity, the utricular, and on each side gape the common seminal ducts. Around the verumontanum, on the floor of the urethra, show the openings of the twenty or thirty little ducts of the prostatic glands. This hasty recall of the anatomy of the organ needs only some important additions. The gland, imagined as a solid whole, is about three quarters of an inch below and behind the symphysis pubis, measuring from the lower edge of the symphysis to the upper aspect of the gland. Its posterior surface lies upon the rectum and can be plainly defined there with the groove between the lobes. Its thickness is from three quarters to seven eighths of an inch. It measures one and one quarter inches from the bladder forward. It measures one and one half to one and three quarters inches transversely, and the urethra tunnels its substance. But a part of large importance is the commissure or band between the rounded ends of the ace of heart lobes behind, the middle portion that binds them together just at the neck of the bladder, and which is formed of glandular structure and more muscular fibres than the lateral lobes. This is the foundation of the noted third lobe of the prostate.

The above rehearsal is almost necessary in discussing enlargements of the organ. These occur in the lateral lobes and in the central portion, singly or together. The pathological development of either or both the lateral lobes naturally impinges upon the caliber of the urethra. The hypertrophy of the central lobe pushes out a tonguelike projection into the bladder, short generally, but at times of considerable length

and thickness, which, by position and the natural action of the bladder, is forced against the outlet. It forms thus an impediment to the course of the urine, breaking its force, and compelling it to flow around, instead of over. Strain only increases the difficulty. In addition to this, every enlargement is in a backward and upward direction, or seems so. The urethra is drawn out in accordance with the increase of the organ and the neck of the bladder is pushed to a higher level and behind the pubes.

Unfortunately, the base of the organ retains its position, and thus an outlet is created considerably higher than the lowest portion. The projecting middle lobe also gradually drags the folds of mucus membrane on either side upward and thus creates a bar that adds to the depth of the undrained cavity. Or such a bar may form of muscular fibre without hypertrophy of the prostate.

The results are those of inadequate force to overcome the obstacle, that is, hypertrophy of the bladder; of urine retained in large quantities, dilatation; and of a decomposing residue left in the pouch behind the prostatic bar, and below the raised outlet, irritation, chronic inflammation, and, at times, stone. The increase of the lobes is largely an increase in muscular and fibrous element, and consists frequently of small fibro-mayomata, of roundish shape, lodged anywhere and everywhere in the organ, without regularity of occurrence, and jutting out into the passage, or simply thickening the walls.

The results of these hypertrophies vary from slight inconvenience to the most serious distress, and to very grave, even fatal, complications. Dilatation and hypertrophy of the bladder, chronic inflammation of the organ, retention and overflow, or more rarely incontinence of urine, and again a harassing frequency of urination, these are the more common results. Commonest of all, however, is a want of power in urination, or in starting the act. The obstruction being mechanical, surgery has taken possession of it, and, while thirty years ago, in severe cases, the surgeon contented himself to establish drainage by an opening through the perineum, the modern special surgeon achieves some of his most brilliant suc-

cesses in removing the obstacle entirely. Rarely is this done early enough to restore the bladder to completely normal conditions, but very rarely is it done without in the largest measure removing the difficulties and dangers of the situation.

While only referring to the method of incising the prostate, of tearing away a piece of the projecting lobe, of shaving it off by an electro heated couched wire or knife, which the French and Italian surgeons have practiced, all by way of the urethra, one can now only seriously consider the modes of Keyes and Belfield, and our American surgeons—that is, the supra pubic incision, with removal of the central lobe by scissors, or rongeur, by finger-snare, or forceps, and the search for projecting tumors in the prostatic urethra by the same way.

The operation has been shorn of many of its dangers not only by the surpassing skill and boldness of modern surgery, but by antiseptic and aseptic procedures, and by means for keeping the peritoneum out of harm's way. The method of filling the rectum with distended water bags, which answers well, is being supplemented in Germany by putting the patient on an inclined plane, head down, and thus slipping the peritoneal fold back by its own gravity.

The results of these operations are so brilliant, and the failures to relieve so few, comparatively, that there is little room left to reason on the subject. And yet, there is enough risk in the operation to endeavor to temporize with the evil while it can be done efficiently. That is, to employ a catheter while it is possible to keep the bladder well drained thereby, and to resort only to operative means when the symptoms of bladder disease make it imperative.

And this is the main and ordinary assistance, entirely efficient, however, which we can furnish to the prostatic whose third lobe erects an obstruction at the neck; or whose muscular fibres hypertrophy to a bar; or whose umcosa is drawn into obstructive folds by enlarged lateral lobes. In short, to the man who has a pouch lower than the level of his outlet, and who, when he ceases to urinate, retains still two or more ounces of urine, we give a soft rubber catheter, and he empties his bladder fully. If the vesical walls have suffered, he

even washes it out. To the patient whose third lobe acts as a valve that closes the outlet, and whose bladder is full, giving up only the overflow, generally a firmer instrument is necessary, a silver or stilletted catheter of extra length and curve. It is in these cases that an imprudence, a cold, a mild intoxication, or a venereal act, causes sudden retention. No urine can be passed and the large-bend catheter of extra length, in all the variations of open curve and close hooks, with all the technical tricks of the surgeon, must be engineered into the bladder to relieve the difficulty. That a good dose of morphine or Dover's powder, a hot bath, or anything that evolves copious perspiration is a mighty assistant, old time surgery has well taught us.

Authors roughly calculate that about one third of the men beyond fifty—most put it fifty-four—are affected by enlargement of the prostate, and that one half of these are not seriously inconvenienced by this enlargement. We may well remember that the location of the enlargement, subject to no known laws, may make the widest difference with resulting inconvenience. I may here add that I have seen a small number of cases of prostatic hypertrophy, with clearly defined symptoms and results, in men between forty and fifty—that is at a much earlier period than is generally recognized.

Among one thousand men between the ages of forty-eight and seventy-two, whom I have examined, four hundred and twenty had enlarged prostate; two hundred and fifty-eight claimed the slighter symptoms of the enlargement, frequent urination and a failing power to direct the stream or begin the act; while one hundred and thirty-nine had more serious results, occasional retention, pain and difficulty in passing water, ineffectual strain, and some yielding of the spincter and during urinary effort; twenty-three had retention, dribbling from overflow, residual urine, and evidences of chronic cystitis—pus in the urine, which had alkaline reaction.

These investigations, made during pension examinations, necessarily hasty, not nicely accurate, are correct, however, in the main. The great proportion of the men were near to sixty years of age or above it. In those having considerable increase of the size of the organ, no definite cause could be as-

certained. But in a much smaller number in private practice, inquiry elicited some strain or excess followed by several days' painfulness of the organ, and a sensitiveness continued for many days as the beginning of the disturbance, or preceding it for several weeks or months. I think that sedentary habits with the retention of urine which they usually encourage, form a frequent starting-point of prostatic disease. Traumatic strain seems another cause, and excesses in venery, not from frequency but from intensity and quick repetition, have appeared a reasonable and just promoter of acute prostatic engorgement and subsequent hypertrophy. It is no use pointing out here, what is patent to every one, that the swelling felt in the rectum is but a general indication of the condition of the organ, and what juts into the lower gut does not obstruct the urethra. The thickness of the organ can be fairly determined by estimate between the sound in the urethra and the finger in the rectum. But the judgment on central hypertrophy and projecting lobe must rest on manipulation with short beaked sounds, and on the manifest obstructions to free and easy urination.

Among the first symptoms of the difficulty is a loss of power in the stream. Frequently a loss of volume accompanies, and an impairment of the faculty to direct it. Very often I have found in addition a symptom not mentioned in literature; a loss of the sensation of urinating. The beginning prostatic does not know whether his water passes or not. He has to watch the stream to see whether he be done. He pulls at the penis to elongate the urethra, and perhaps gives a slight twitch to the vesical neck in order to empty the residue. His control of that neck is very seriously impaired. At the same time there is frequently a warm, slightly irritant sensation in the suprapubic region, and sometimes at the meatus. It is like the feeling of a full bladder, and simulates a desire to urinate without being entirely that, so that the patient is in doubt. At this early stage there are slight or no rectal symptoms.

In a few cases venereal acts provoke a tense and painful sensation in the prostatic region. Only moderate enlargement can be felt by rectal examination at this stage, and the

sound detects no obstruction at the vesical neck. In fact, large sounds pass with ease, only the distance between the meatus and the entry into the bladder is somewhat increased. The patient at this stage still succeeds in emptying his bladder fully, but he does it easier while sitting on the closet than while standing erect. When erect he does not empty it at once but in several attempts, and his straining is singularly inefficient. With this he may have frequent calls, (and likely has at first) even promptings to urinate in the early hours of morning, or perhaps twice during the night. Or he may not urinate oftener than usual; but the former is likely to be the rule. And there are variations in his difficulty; he is much worse at times, and at others gains a control over his organs not far aside from former normal conditions.

In this state I look upon the difficulty as beginning hypertrophy of the prostate, which is not yet obstructive but simply irritating and by mechanical pressure and distortion interferes with the nice mechanism at the neck of the bladder, causes congestion of its veins, and an impairment and disturbance of nerve supply. It is with these cases that I have followed a treatment which has given good results, as far as I could observe, though none of the cases date back more than five years. Their difficulties have been amended in a large measure. Whether the prostatic beginning hypertrophy was affected could not well be determined definitely. I thought so, but accurate measurements could not be reached.

The galvanic current was employed first of all, the negative pole by insulated sound in the prostatic urethra, the positive above the pubis at first, later on the perineum just anterior to the rectum. The strength was rarely more than two cells at the beginning, and later increased to six, eight, and even ten cells where there was large tolerance. I found it a good clinical procedure to let the patient try the poll at the tip of the tongue, where a distinct taste with some pungency was required, and no more. That strength answered best. These applications, preferably with a full bladder, were repeated twice a week and continued from five to ten minutes.

Another means consisted in cold baths, which were to last one minute, followed by brisk application of a brush to the

abdomen and inside of the thighs, and by a roll in a warm blanket with ten minutes of rest before using the towel. Where that was impracticable cold effusion was employed. Strychnine was used in addition, in doses from one sixtieth to one thirtieth of a grain three times daily.

Iodide of potassium I have found of no use, but in states of vesical irritability I have had suppositories containing one grain of iodoform introduced nightly. At times one eighth of a grain of morphia was added to the first and second of these.

I have encouraged such patients in brisk walking, and where their occupation was sedentary, in making frequent breaks, and taking spells of a few minutes exercise to cut up long sessions, and the results have been promising.

The patients have, to a large extent, recovered control of their bladders, they have retained their urine for a normal period, they have not been disturbed at night, they have been able to give some direction to their stream, they have urinated in one continued effort, not in sections, and they have again had the sensation of urinating and have expelled the final drops without great delay. But most of all, the feeling of weight and of heat in the region of the bladder has disappeared, and they were able to ride, walk, drink and cohabit without inconvenience.

What proved still most trying to them was a long, steady session, long continued work in a chair, without break. I have tried to diagnosticate the cases I speak of from others of prostatic or vesical neuroses, which I treat with cold water, sounds and iron, and some bromides; and I think that thirteen cases in which the above treatment has been as fully applied as people in the pursuit of business and pleasure will do, were cases of hypertrophy of the prostate, well started in, centric hypertrophy, probably, but not to the extent of being obstructive or plainly appreciable by the sound.

In my sketchy account of the difficulty in more advanced stages I have not referred by name to the brilliant surgeons that are making operations for prostatic hypertrophy famous, because everyone knows them. Sir Henry Thompson's classic work is a marvel of thoroughness, observation and accurate

description. Belfield of Chicago has done splendid work, and Keyes, of New York, as a teacher and operator, is one of the foremost in the world in this direction, and I have enjoyed the honor of Civiale's personal teaching, who was a pioneer; but he is of long ago.

It remains only to add that these brilliant operators do not put more faith in treatment at the beginning of hypertrophy than in later stages. That is, in treatment short of cutting instruments, though they would delay their employment judiciously as a last resort. I feel differently, and before the habitual catheter becomes necessary, before the suprapubic operation admits the scissors or rongeur to the the hypertrophied lobe, before perineal or suprapubic drainage is called for—even before washings of the bladder become proper, I find a stage where disagreeable symptoms can be modified or done away with, and where hypertrophy can be stayed or possibly reduced somewhat, by the treatment indicated above.

THE EARLY TREATMENT OF CONGENITAL DEFORMITIES.

BY O. H. SMITH, M.D., HARTFORD.

In the various realms of medicine and surgery, it too frequently happens that the results of our work are vague and unsatisfactory. With the class of cases under consideration the results are appreciable and gratifying to the physician, and often of incalculable benefit to the patient. The obstetrician is the first guardian of the new born, and he is in a measure responsible for the condition in which it starts upon the course of life. How often are we asked by the anxious mother almost with the first breath she draws after the birth of her child, "Doctor, is my baby perfect?" And how often to relieve her anxieties do we say "Yes," without taking time to look carefully at the extremities, the lip, the palate and other localities where nature most frequently errs in formation.

We often see a child with club-foot, seriously lame, which by early treatment might have been spared the lifelong anguish of difficult and awkward locomotion.

Frequently a neglected phimosis occasions a serious strain of the nervous system before the cause is discovered, and a baby may be treated with cathartics for constipation which has complete atresia of the rectum.

A child's face may be contorted, and its pronunciation spoiled for life, by deferring too long an operation on a hare-lip or a cleft palate.

The congenital deformities and malformations occurring most frequently are: Harelip, Cleft Palate, Talipes, Malformation of Genitals, Irregular Digits and Atresia of Orifices.

HARELIP,

or failure of union of the lateral and central processes during early embryonic life, is one of the commonest

of congenital defects. The cause of this arrest of development is unknown. It is influenced by heredity, and we meet it more frequently in males than in females. The fissure varies greatly in extent, from a mere notch to a complete division of the lip, extending into the nostril. It may be either double or single, but rarely ever in the centre. Nursing is more or less interfered with in either variety, and if the deformity is uncorrected, pronunciation will be imperfect. The fissure may extend into the superior maxillary bone on one or both sides, and when thus complicated, nursing and deglutition are difficult; in such infants the mortality is high in the early months.

When should an operation for repair of Harelip be performed? Unless the case be an unusually bad one, requiring considerable dissection and cutting, or the general condition of the child contra indicate any operation, harelip should be repaired within the first forty-eight hours. If the case is complicated, and there is fissure of the alveolar portion of the jaw and palate, or maxillary projection, the pressure of the repaired lip exerts a favorable influence on the bony deformity before the parts become solidified. In such cases I would not wait longer than the sixth week. The advantages of an early operation are, that after its performance the infant can nurse without difficulty, and the act of nursing presses the sides of the incision, aiding union; that the wound heals more readily and solidly; there is much less liability of permanent flattening, with deformity of face and impediment of speech.

Anesthetics in a simple case are not needed as a rule, but may be given with safety, a small amount of chloroform or ether usually acting happily on the infant. Without going into details of the operation, the salient points may be mentioned as follows:

The child's chest and arms are held snugly by a broad bandage; the head is held between the surgeon's knees; the edges of the fissure trimmed with a small bistoury or cataract knife. Hemorrhage is controlled by the pressure and the edges of the wound brought into close and exact apposition, and held by silk or silver interrupted sutures or Harelip pins,

and supported by adhesive plaster. If the pins are used they should be left in seventy-two to ninety-six hours, the sutures two to four days longer. Crusts forming on the line of incision should not be interfered with, and the cicatrix should be supported for several days with strips of plaster.

CLEFT PALATE.

This serious deformity frequently accompanies Harelip. Fortunately the soft palate is affected more frequently than the hard. As with Harelip, arrest of developement causes the malformation, but of the remote cause we know nothing. This condition is not usually noticed at birth, unless the accoucheur has the habit of inspecting each infant's mouth. When nursing is attempted the trouble becomes apparent. If the fissure is an extensive one nursing may be impossible, and swallowing difficult; in these cases the mortality is high during the early weeks.

There is but one remedy for this deformity, and that is an operation. The infant must be fed by spoon, or upon a bottle provided with a flat nipple, or with a flap attachment as recommended by Cole to close the fissure at the effort of suction. Lawson Taite says that one half of the children born with extensive clefts die within a few days after birth from starvation, and concludes that many of these unfortunates might be saved by an early operation. He advises closing the hard palate as early as the third week. The majority of modern surgeons do not go to this extreme of early operation, but since the days of Roux, the father of Staphylorrhaphy, the tendency has been to earlier operative treatment. Thomas Smith, of St. Bartholomew's Hospital, demonstrated in 1869 that anesthetics might be safely administered in this operation, and at the same time made use of a gag of his own invention, and with these two aids earlier operations were made possible. Dr. Van de Veer's words may be taken as an expression of the majority of modern surgeons on this point. He says:

"If we could get honest statistics, we should find the best time for operating to be immediately after the first dentition, or when the child is about two years old, and that previous to

this no attempt should be made to encourage the child to talk."

The objects of an early operation are to enable the child to take food, and to improve the voice and make pronunciation possible. In the hands of the most expert, the operation in severe cases is often disappointing, and the general practitioner will not feel justified in its performance. If the cleft is limited the results are more encouraging, and the general practitioner may operate with a fair prospect of success.

The child is anesthetised, placed before a strong light and one side of the cleft is seized with long forceps, drawn forward, transfixed near its inner border with a narrow sharp knife, and freely cut upwards, removing the mucous membrane along the whole of its inner margin. The same is done on the opposite side and two sutures inserted. If the entire velum is invaded by the cleft the operation is more difficult, the combined actions of the levator and tensor muscles of the palate on either side drawing upon the edges of the fissure. These muscles should be divided in order to obtain good union. The after treatment must be carefully attended to, no solid food and no conversation being allowed. The sutures should be removed at about the ninth day.

TALIPES.

Statistics differ as to the frequency of club foot in the new-born. Schoussier reports thirty-seven cases occurring in twenty-three thousand, or about one in six hundred and forty. In about six hundred newly born infants I have encountered six cases of club-foot, all Varus or Equino-varus. More cases are congenital than acquired.

The cause of this deformity, like Harelip, is uncertain. Some cases are undoubtedly hereditary, and inter-marrying seems to be productive of it. By far the most common variety is Equino-varus, the foot being flexed, adducted and inverted, flexion being due to altered relations of the foot and ankle, inversion and adduction to separation of the forepart of the foot from the astragalus and os calcis. Occasionally the feet of new-born infants will appear inverted by a temporary

spasm of the tibialis anticus. This will pass away shortly if the true deformity is not present.

There are several advantages in the early treatment of these cases, the bones and ligaments being soft and yielding, much more can be accomplished than at a later period. The foot grows much more rapidly during the early months of infancy than later, the deformity increasing correspondingly. The young infant resists less and is less restive under retentive treatment. By early corrective and mechanical treatment, later operative treatment is usually avoided. Corrective treatment must be commenced within the first twenty-four hours after the infant's birth. The foot should be drawn into a position opposing the deformity, and the deficient muscles massaged several times daily. If after six days the deformity remains, a retentive bandage should be applied, plaster of Paris being the best. The details I have left to Dr. Cook, who has addressed us on this subject. It is my practice to cut and remove the plaster splint after a few days, and thenceforth bathe and massage the foot and ankle daily, re-applying the splint each time. By so doing abrasions of the skin and atrophy of muscles are avoided and the best results obtained. If improvement does not follow this plan, or some modification, such as afforded by elastic tension, then tenotomy will be in order. This may be done during the early months, if it is evident that milder measures will not effect a cure. Following the operation careful fixation and retentive treatment are essential to success.

MALFORMATIONS OF THE GENITALS

are variously estimated to occur in from one half to one per cent. of children born. Slight errors of development in embryonic life cause in these organs serious malformations. In these, as in other deformities, heredity seems to have an influence. Woodman observed hypospadia in four successive generations. Males are more prone to these deformities than females. *Adhesions of the prepuce and phimosis*, while not strictly deformities, are important abnormalities, and demand prompt attention. Adhesion of the prepuce is very frequently present at birth, phimosis rarely, but the former tends to the

latter if allowed to remain uncorrected. During the first few weeks of life adhesion is readily overcome by gentle manipulations, but later it becomes firm as a result of accumulated secretions and inflammation. It is my belief that the careful retraction of the foreskin and cleansing the glans penis in young infants will save many a circumcision, and the multiple symptoms attributed to reflex irritation from this organ. In case free exposure of the glans cannot be accomplished by reason of contraction, then dilatation with forceps should be tried; this failing, nicking the constricting ring may be sufficient, if not, circumcision is in order. If the foreskin cannot be retracted by the milder methods, this operation should be done in the early months if irritation is being provoked. If there are no symptoms of irritation it can be left until the fifth or sixth year; there can be no object in waiting longer, thereby inviting the evils attendant upon this condition if present at puberty. General rather than local anesthetics should be used, cocaine not being well borne by children when applied to the genito-urinary tract. If the foreskin is not redundant the operation of slitting of the dorsum is a good substitute. In this operation the angles should be rounded to avoid clumsy flaps. Gut suture should be used to avoid frightening the child a second time, as is necessary with silk or wire, which have to be removed.

Hypospadias, epispadias, and urethral fissure are congenital malformations requiring plastic operations, which may be deferred to the sixth year, providing there is no difficulty in urination. *Atresia* of the rectum, anus, vagina and urethra, are malformations giving rise to serious trouble unless promptly relieved. In cases of undue retention of excretions in the new born, a careful inspection of the orifices should be made. The rectum may be found stenotic or entirely impervious. Operative treatment is demanded at once in such cases. Some have advised delay in atresia of the rectum, in order that the gut may be distended to aid in correctly locating it, but this is a dangerous procedure and a rupture may result from delay. In stenosis of the anus, notching followed by digital or sponge tent dilatation is required. The anus may be found closed by a membrane. In this case a crucial incision

is the best operation, the flaps being trimmed away and dilatation employed for some days. There may be absence of the anus or rectum, or both, or the rectum may open into the bladder or the vagina. These are serious conditions and the only way of saving infants thus afflicted is by early operation of cutting and dissecting from the perineum to the supposed location of the rectum. Iliac incision, with establishment of an artificial anus, has been done for the relief of this condition, but the mortality is extremely high. A membranous band may close the rectum an inch or two from the anus and the examiner be deceived unless a probe or finger be employed. Such a closure should be treated as we treat imperforate anus. Atresia of the urethra is less common than the foregoing; perforation followed by dilatation is the treatment required. The digits on hands and feet may be deformed, rudimentary or supernumerary, or they may be fused together.

The cause of these irregularities is obscure, but may be due to inflammatory adhesion between the amnion and integument during early foetal development. Amputation by the umbilical cord may occasion rudimentary fingers.

Surgical treatment will, in some cases, greatly improve the appearance of such malformed extremities.

In conclusion, I would urge the great importance of making a systematic examination of the new-born and of prompt and thorough treatment where congenital defects are found. In so doing we perform a manifest duty to that ever increasing and helpless army of humanity, the babies, and our reward will often be in witnessing the sadly malformed infant grow up a sound and healthy child.

TREATMENT OF CONGENITAL CLUB-FOOT IN CHILDREN UNDER TWO YEARS OF AGE.

BY A. G. COOK, M.D., HARTFORD.

Gentlemen :—

I have the honor to address you on the subject of congenital club-foot in young children, and of explaining my method of treatment. I claim originality neither in operations nor apparatus, nor is it possible to decide to whom credit is due. Club-feet were mentioned by Homer and from his time to the present day, medical men have twisted and bandaged them, invented and re-invented apparatus, expounded and demolished theories. They have lauded screws and levers, abandoned them for cutting operations, fixed dressings, or rubber muscles, only to return again to the levers and screws. Stromeyer, in 1831, advocated subcutaneous tenotomy, later Barwell gave his name to an elastic traction dressing, which on investigation, proved to be only a modified form of a bandage used by Hippocrates. Doubtful cures have from time to time been reported, but I believe only within the last fifty years have actual cures been accomplished. No one who has known an unfortunate cripple can fail to appreciate the importance of his cure, and yet the subject is one in which the Profession in general take comparatively little interest. Operations promising speedy cures, and not accompanied by proper aftertreatment, are worse than useless, and complicated apparatus recommended by the surgical instrument maker, expensive and unsatisfactory. As a natural result the general practitioner, after one or two disastrous trials, sends his club-foot, without thought or investigation, to a specialist who says he can cure them, to an instrument maker who says he can, or in fact to any one who promises relief and is willing to accept the responsibility. Even in the hands of our leading

specialists the number of permanent cures is less than is generally supposed; this is often the fault of the patient who considers himself cured and too soon abandons treatment. But many of the patients supposed cured, who have walked well and whose photographs illustrate our books and Medical Journals, have relapsed only to be *again* cured and *again* photographed by other distinguished surgeons. Within the last twenty years, however, almost within the last ten, more progress has been made in the scientific treatment of club-foot, more real cures accomplished, than in all the preceding ages. This has resulted from a more thorough study of principles rather than methods; men who cut everything and men who twisted everything and cut nothing, have met in medical societies, fought wordy battles, exhibited cured cases, and pointed out the defects in their opponents' apparatus. The results of various modes of treatment have been studied in long series of cases, the surgeon has adopted the braces of the orthopedist in the aftertreatment of his operations, and the orthopedist safely cuts tendons which formerly he would have taken years to stretch. We have learned what and when to cut and what tissues will yield to pressure; the amount of pressure that can be borne and the best means of application. In short, the principles that govern the intelligent treatment of congenital club-foot have been discovered, and stand to-day unchallenged.

The methods vary with the taste of the surgeon and the circumstances of the patient, but are fast growing simpler and more uniform. What is and what is not good treatment can be decided without hesitation and, provided the patient is seen early in life and continues under treatment long enough, congenital club-foot can be cured as easily and safely as any surgical case. This, gentlemen, can be done by any surgeon and without apparatus other than he can make for himself. Before adopting any plan of treatment, the conditions present must be thoroughly understood and the obstacles to be overcome considered.

The term club-foot, talipes equino-varus according to Bradford, is popularly applied to a deformity characterized by an inversion, torsion and depression of the front part of the

foot, with an elevation of the heel. In walking on a foot thus deformed the weight of the body is borne, not by the sole of the foot but by the outer side, and in extreme cases by the dorsum of the foot. All the tissues are necessarily affected by the abnormal position, and the skin, muscles, tendons and fascia are all altered. The position of the tarsal bones is never a normal one, but in infantile cases the distortion in the shape of the bones is of little importance, as the ends of the bones are largely cartilaginous. Walking on a foot in this abnormal position greatly increases the deformity. The over-stretched tendons and fascia on the outer and anterior surfaces of the leg and foot lengthen and fail to antagonize the opposing muscles; those on the inner and posterior surfaces contract to accommodate themselves to the altered position of the foot, and still contracting, increase the distortion by dragging the bones farther and farther from their proper position. The muscles of the whole limb atrophy from want of use till it becomes difficult to distinguish the case from spinal paralysis. Even more serious changes take place in the bones of the tarsus. Where the bones are exposed to the greatest pressure growth is diminished and where, on the other hand, there exists scarcely any pressure, the bones increase in size. Again where the bones are but little in contact, the cartilages disappear and a new cartilaginous surface forms where the bones constantly move on each other. The object of the treatment, therefore, is to restore the foot to its normal condition by cutting or stretching contracted tissues, by relieving the strain on the over-stretched tendons, thus allowing them to become normal, and by placing the bones in their normal position and keeping them in place until proper joint surfaces have formed.

Either completely cure a case of club-foot or let it alone. Half cures are no cures and will surely relapse. The foot may be put in a better position, but unless it be perfect the patient will not walk as well as he did before. Begin the treatment on the tenth day after birth if possible. Foolish mothers often conceal the deformity of their children and so the golden opportunity is lost. The first point to be attacked is the varus or turning inward of the foot. Give an anesthetic,

grasp the heel and lower part of the leg firmly in the left hand, the foot in the right, and twist outward, using considerable force. No harm will come to the foot if the heel be firmly held. Repeat this several times and place the foot in the best position obtainable; a wad of cotton over the instep and under the knee and a cotton roller bandage, covered by a plaster of Paris bandage, form the dressing. The foot is held in position till the plaster sets. The bandage must be carried to the middle of the thigh with the knee slightly flexed, or it will turn on the leg and the foot become inverted. The toes are left exposed to show the condition of the circulation. Sometimes the circulation is very poorly carried on when the foot is first placed in the new position; this must be determined by an examination before the plaster is applied. In such cases the foot must be put in the best manner in which the circulation can be maintained. The arteries will adapt themselves to the new position in a few days, when the foot can be again further straightened. Little, if any, discomfort should follow the operation. The patient is seen frequently during the first day or two; if there is any pain, or the toes are discolored, or even if the child is irritable and refuses food, remove the cast at once. This is done by cutting along the anterior surface with an ordinary knife or more conveniently, cutting outward with a pruning knife. The trouble being remedied, the cast is re-applied and bandaged on with a cotton roller. In children who have attempted to walk, it is usually necessary to divide the plantar fascia; this is readily done subcutaneously, by everting the foot and cutting across all tense bands of fascia felt beneath the skin. At the end of three weeks remove the plaster cast. The tissues on the inner side of the foot will be found to have stretched, and those on the outer side to have contracted; in fact, the foot is deformed as before, save that the deformity is less severe and can be *still* further improved by repeating the former operation. From two to four operations are necessary to completely overcome the varus. Up to this time the tendon of Achilles has been left undisturbed, as it helps to hold the heel firmly while the foot is being twisted outward. Having now overcome the varus the equinus is next corrected. Give an



CASE SHOWING TREATMENT WITH PLASTER DRESSING.

anesthetic, subcutaneously divide the tendon of Achilles and cover the tenetome wound with a small piece of adhesive plaster. Flex the foot and dress with plaster of Paris as before. The cut tendon re-unites through organization of the blood-clot between the ends, and it is better to completely flex the foot at once, thus separating the ends of the tendon and allowing the clot to form. The foot should not be disturbed again for five weeks, when the tendon will have re-united. In very young children the tendon of Achilles can sometimes be stretched, but as a general rule should be cut. In fat children and in those who have been operated upon before, it is sometimes difficult to find the tendon. In such cases make a longitudinal incision through the skin just above the heel, hook up the tendon and cut it transversely over a grooved director, using antiseptic precautions; suture the skin with fine catgut and dress as before. When the tendon of Achilles has re-united the first object of the treatment is attained; the shortened tissues have lengthened, the over-stretched tissues have contracted and the foot is in a normal position. The position of the astragalus is the key to the whole, and unless this bone stands in normal relation to all other bones, attempts at walking will only hasten an inevitable relapse. The foot must now be held in position by an apparatus allowing all proper motions of the foot, that the tissues may become normal from use and that new joint surfaces may form on the bones and the child taught to walk properly on the foot.

Into the apex of a fan-shaped piece of rubber adhesive plaster, sew a small metal ring. Place the ring at the outer side of the base of the fifth toe; carry the plaster under the sole of the foot round the inner side and on to the dorsum of the foot to a line extending from the base of the second toe. Select a piece of tin in length equal to one half the length of the leg, in width equal to one quarter the circumference of the leg. Solder a metal ring on the flat surface of the tin near one end, cover the tin with adhesive plaster and place on the outer side of the leg with the ring about one inch below the head of the fibula; bend the tin to conform with the shape of the leg and attach by strips of adhesive plaster. Bandage the limb from the toes to the knee with a cotton

roller. A piece of gum rubber nursing tube extending from the ring on the outer side of the fifth toe to the ring on the outer side of the leg, below the head of the fibula, flexes and everts the foot, compels the child to walk squarely on the sole of the foot, and does not impede any normal motion. This is Barwell's dressing and is worn till all tendency to relapse has passed away. The adhesive plasters are renewed every two weeks and if care is taken will not irritate the skin. If from any cause sores form under the adhesive plaster, remove the dressing and hold the feet in position with a plaster of Paris cast till the sores heal. It requires time and patience to cure club-foot, but it can be done and is *best* done by the family doctor commencing treatment ten days after the birth of the child.



CASE SHOWING THE APPLICATION OF BARWELL'S APPARATUS.

DISEASES OF THE MASTOID; THEIR RELATIONS TO THE MIDDLE EAR, AND THEIR SURGICAL TREATMENT.

BY CARL E. MUNGER, M.D., WATERBURY.

In selecting this subject, I have been prompted to do so from the fact that it is of great interest to the general practitioner that prompt diagnoses should be made, that the indications for operations should be early noted, and that precious time should not be allowed to slip by when an operation could be performed with a reasonable hope of affording relief and even recovery. It is only comparatively recently that thoroughness of operation in this region has been recognized as a necessity if a satisfactory result is to be obtained; and I think that each one of us should have this subject fully in hand and should be very unwilling to sit idly by, or use only palliative measures when we have a means of curing in our hands. The mastoid process of the temporal bone and its diseases are to be studied chiefly with regard to their relations to the tympanic cavity, to the brain, to the lateral sinus and to the facial nerve; in fact it is from these very relations alone that the mastoid presents very much of interest to us. As this is not an essay on descriptive anatomy and as we are all supposably familiar with the construction of the mastoid, a few words will suffice to bring to our minds the facts necessary to make our study of the mastoid interesting or very instructive.

ANATOMY.

The mastoid may be spoken of as a process of the temporal bone, containing a number of spaces or cells which are *lined with mucous membrane, which is continuous with the mucous

*Reference Hand Book of Medical Sciences, Volume 11, p. 613.

membrane of the tympanic cavity. The largest of these is called the *mastoid antrum* and which is ordinarily of a size sufficient to contain a medium sized pea, and is in *direct communication with the tympanic cavity at its superior posterior part. This cavity together with the other spaces are lined with mucous membrane and contain air, and are called pneumatic cells. These smaller cells vary greatly in size and number according to the age and to the degree of pathological changes that have been going on. At birth there is only one of these cells present and which persists as the *antrum*. The other spaces become gradually developed until at puberty the full size and number obtain.

The groove for the *lateral sinus* lies at a distance, from the posterior extremity of the antrum, of from three to six millimetres; it curves outwards and backwards and upon the degree of curvature depends the likelihood of its being tampered with during an operation undertaken to open the mastoid cells.

†In a number of skulls, about four hundred I think, which Politzer, of Vienna, examined with regard to this point, he found that the curvature of the sinus seemed more pronounced in cases in which the mastoid was illy developed or when it was the seat of sclerosis, and the more developed the bones the more favorable position had the sinus as regards its remoteness from the external surface. In opening the mastoid cells it is to be remembered that the upper surface of the petrous portion of the temporal bone forms part of the middle fossa of the skull, so it is necessary to find the line of safety in this direction.

‡The *linea temporalis* is such a line, as it has been found that the middle fossa does not dip down below this line or at most a distance not exceeding one centimeter, so that any opening more than a centimetre below this line will not reach into the fossa.

§With regard to the *facial nerve* it may be stated that in

*Reference Hand Book of Medical Sciences, Volume II, p. 613.

†Reference Hand Book of Medical Sciences, Volume II, p. 613.

‡Reference Hand Book of Medical Sciences, Volume II, p. 613.

§Diseases of the Ear, Buck, p. 304.

this region it lies in a bony canal, the Aqueductus Fallopii, which is situated in close proximity to the mouth of the antrum, and from its horizontal direction here bends sharply at a right angle and passes out through the stylomastoid foramen. It is quite deeply located in the bone, but is in relation with some of the mastoid cells, so that it may quite easily become affected when there is a caries of that part of the mastoid, but it is so deeply situated that it is unlikely that it will be injured by the drill, chisel or whatever may be used to open the cells.

ETIOLOGY.

The cases of mastoid disease are almost all of them secondary to middle ear trouble. Simple primary *periostitis* of the mastoid I shall not take into consideration, as these cases do not properly fall into the category of affections that we are studying.

*Küster gives as causes of *primary* mastoiditis: (1) Tubercular osteitis of the mastoid; (2) Acute infectious osteomyelitis; (3) Cholesteatomata, which may be formed (a) by a thickening and proliferation of epithelium, or (b) congenital dermoid cysts.

Primary mastoiditis is, however, very rare, except as result of Cholesteatomata, and as it is often most difficult to determine whether these tumors have their origin in the tympanic cavity or in the spaces of the mastoid, we may for all practical purposes state that mastoid disease is a sequel of middle ear disease.

The freedom of communication between the tympanic cavity and the antrum is so marked that there is little wonder, that in cases either of acute or chronic middle ear inflammation, the products of inflammation should pass into the antrum and thence into the other pneumatic cells, setting up an inflammatory condition in these cells by the presence of unhealthy discharges, or that there should be an extension of inflammation into the cells from the middle ear, producing a discharge which in its turn produces pressure upon and death of the

*Annual of Universal Medical Sciences, 1890, Volume IV, Chapter 38.

mucous membrane lining the cells and after that caries and necrosis of the bone itself.

MASTOID INVOLVED.

The mastoid may become *quickly* involved in cases of acute middle ear trouble, and may be affected during exacerbations of chronic middle ear inflammation, or may become *gradually* affected during a long period of middle ear inflammation and show signs of trouble only after many years of middle ear affection.

*Cozzolini states (1) that mastoiditis is usually a result of *chronic* purulent otitis, very rarely of *acute* purulent otitis, and more rarely still of lesions of the external auditory canal.

(2) In all cases of this disease granulations or polypi exist in the auditory cavities, the escape of pus from the tympanum into the external canal being thus prevented.

(3) It is possible to cure cases of mastoiditis in these cases by removal of polypi and granulations and by thorough antiseptic treatment, without having recourse to severe operative measures.

(4) Opening of the mastoid cells is absolutely necessary where neoplasms exist within the mastoid process or other osseous lesions, such as sequestra.

SYMPTOMS.

The usual symptoms of mastoiditis, according to †Green, are (a) pain in the mastoid on firm pressure, (b) edema of upper posterior wall of external canal close to drum, (c) a feeling of fluctuation in mastoid (but this is of course very uncertain and unreliable), (d) continuance of otorrhea after all apparent causes have been removed.

In cases of *acute mastoiditis* a greater or less degree of fever may be present, but in the more chronic cases fever is usually absent, except when there is an exacerbation of the middle ear trouble, to which it is secondary.

Green found pus in twelve out of fourteen cases on which he operated on the mastoid, and where there were no signs of inflammation in mastoid apparent.

*Annual of Universal Medical Sciences, 1890, Volume IV, Chapter 36.

†Reference Handbook of Medical Sciences, Volume II, p. 615.

*Green divides the cases of mastoid disease into six classes, but †Buck simplifies this very much, bringing the cases under three heads, as follows:

- I. Subacute Condensing Mastoid Osteitis.
- II. Acute Diffuse Mastoid Osteitis.
- III. Chronic Ulcerative Inflammation of the Mastoid Antrum.

Subacute Condensing Mastoid Osteitis is practically a sclerosis following a chronic purulent inflammation of the antrum, but may continue as an active process after the exciting cause is removed.

Acute Diffuse Mastoid Osteitis is an inflammation of the mucous membrane lining the air cells of the mastoid. An abundant secretion is present, which soon becomes purulent, and unless it finds a means of escape from the antrum and the other cells, a death of mucous membrane occurs, due to pressure, and following this more or less extensive destruction of the septa of the pneumatic cells, and later the caries may extend to the body of the mastoid itself, and in most favorable cases where there is so much destruction of fistula, may extend to the surface of the bone and become an outlet for the debris and a spontaneous cure result.

The third class of cases which Buck puts under the heading *Chronic Ulcerative Inflammation of the Mastoid Antrum* furnishes most of the fatal cases. The patient has had a discharge from the ear for years. Pus cells, epithelium, cholesterolin crystals, etc., begin to accumulate in the antrum, at the same time the pneumatic cells are becoming small through chronic osteitis, the opening from the antrum into the tympanum gets stopped up, pressure on the walls of the antrum begins and ulceration and caries follow.

INDICATIONS FOR OPERATION.

In cases of *acute middle ear disease* where the pain is persistent after the usual means for reducing the inflammation have been intelligently tried; where although there may be no swelling and no redness of the tissues in the mastoid

*Annual of Universal Medical Sciences, 1891, Volume IV, Chapter 38.

†A Manual of Diseases of the Ear, Buck, p. 307.

region, where there may not be even tenderness on pressure, and especially where after a free flow of discharge has been established through the perforated drum the pain still continues, it is imperative that the mastoid cells be opened.

But it is, I think, in cases of *chronic middle ear inflammation* that the external opening into the mastoid antrum and cells is destined to be productive of great results. Many cases have undoubtedly been allowed to proceed too long and the fatal point has been reached before an operation has been attempted, and lives have been sacrificed in the past that in corresponding cases will be rescued in the future by the timely interference of the surgeon. In *Schwartz's clinic the indications for opening the mastoid cells are (1) *acute inflammation* of the cells with retention of pus, if after the application of cold by ice bags, or coil, and after Wilde's incision, the treatment not being continued more than a week, the edematous swelling, pain and elevation of temperature do not disappear.

(2) In *chronic inflammation* of the mastoid when repeated attacks of swelling with consequent improvement have taken place, or where there has been the formation of abscess and fistulae, pointing or opening at or through the skin of the mastoid region, the neck, auditory canal or pharynx.

(3) In cases in which although the mastoid appears healthy there is retained pus, or cholesteatomata of the middle ear which cannot be evacuated by the natural channels, as soon as symptoms appear which indicate that complications dangerous to life are imminent.

(4) In cases of long continued pain in the mastoid region, although the bone is apparently healthy, when the pain is not controlled by other remedies.

(5) As a prophylactic measure against the fatal consequences which might ensue as a result of incurable purulent inflammation of the middle ear with fetid discharge, in which there are no other symptoms of retention of pus in the middle ear except an obstinate fetor of the pus, despite careful cleansing and disinfecting through the auditory canal and Eustachian tube.

*Reference Hand Book of Medical Sciences, Volume II, p. 617.

In these cases the antrum is opened and kept open for a time in order to permit of the washing out of the middle ear from behind.

*Politzer operates (1) in cases of acute "purulent inflammation of the middle ear, where the persistent severe pain in the ear is relieved neither by means of the ice bag or Leiter's cooling apparatus, nor by Wilde's incision.

(2) In cases of painful inflammations in the mastoid process, occurring in acute and chronic suppuration of the middle ear, where these are caused by stagnation of pus in consequence of contractions of the external meatus or of numerous growths filling up the tympanic cavity and covering up the perforation. The operation is necessary when several attempts to remove obstacles to the escape of pus have failed, and especially in all cases of suppuration of the middle ear when the discharge suddenly ceases while inflammatory symptoms in the mastoid continue, and this even when the soft parts over the mastoid process are not swollen or infiltrated.

(3) When there is persistent pain in the mastoid process and at the same time a bulging out of the posterior superior wall of the meatus, and after an incision of this suppurating wall of the meatus the mastoid abscess is either not emptied at all or only insufficiently, and the symptoms indicating retention of pus in the mastoid process remain unabated.

(4) Obstinate pain in the mastoid, continuing for days or weeks without appreciable stagnation of pus, and external swelling; especially if the bone is very sensitive to pressure, as there is probably a deep seated abscess within the mastoid which does not communicate with the tympanum.

(5) As a vital indication in every suppuration of the middle ear, combined with inflammation of the mastoid, in which fever, vertigo and headache are developed during the course of the affection, symptoms which may foretell the approach of a dangerous complication."

The opinions of these two great aural surgeons are very much in accord and would teach us that whenever we have a persistent discharge from the middle ear, especially if fetid in

*Reference Hand Book of the Medical Sciences, Volume II, p. 617.

character, and accompanied with severe and unreliable pain in the mastoid region, that it is the duty of the surgeon to warn his patient that it is essential to his safety that the opening of the mastoid cells should be proceeded to without undue delay, and the diseased bone and soft tissues should be thoroughly and completely removed by an operation that shall be radical and that shall establish such a system of free drainage that there can be no further accumulation of diseased discharges and that the parts shall be left in such a condition that local treatment can be easily and thoroughly carried out. The dangers peculiar to the operation are, (1) opening into the lateral sinus, (2) injury of dura and possibly of brain tissue, (3) injury of the facial nerve.

The possibility of wounding the lateral sinus has been the *bête noir* in this operation and has, I fancy, kept many otherwise bold surgeons from going into the mastoid cells, except as a last extremity, and it is more or less traditional that a wound of the lateral sinus will in all likelihood rapidly prove fatal. If, however, the statistics of this feature are looked up, it will be found that like many other popular superstitions this one is, in a great measure, unfounded. A surgeon, an assistant in Prof. Lucae's clinic in Berlin, recently told me that in about three hundred operations on the mastoid he had nine times opened the sinus and without harm to the patient. Prof. Gruber, of Vienna, made the statement that he had opened the sinus twice, each time without injury to the patient. However, I fancy, that any of us would much prefer to finish the operation without this complication.

Schwartz, Groenland, Jacobi and Knapp each report a case in which the sinus was opened with recovery of each.

As has been stated, no opening made more than one centimeter below the linea temporalis will enter the middle fossa. By observing this precaution, the brain and dura will be exempt from danger.

The facial nerve is protected by its bony covering, the Aqueductus Fallopii, and if its position near and below the mouth of the antrum is recalled, the danger of wounding the nerve is reduced to a minimum.

INSTRUMENTS.

Method of Operation.—The instruments used in opening the mastoid vary according to the habits and possibly caprices of different operators.

Thus *Buck prefers a drill when a small opening is required and a chisel for a larger opening.

†Roosa in the last edition of his treatise on the ear prefers a drill or small trephine.

‡At a meeting of the American Otological Society, July 20, 1886, Knapp, Noyes, Andrews and Grüning favored the chisel.

Green prefers mallet and gouge, then dental engine and burrs to enlarge the opening.

Politzer and Lucae both use chisels and gouges.

Schwartz advocates chisels and gouges. He does not believe in drills, saying that there is an element of danger in drills which does not obtain in the use of chisels, viz.—if the bone is soft there is much uncertainty as to the direction which the drill may take or the distance to which it may go.

§ (Wilson, of Bridgeport, has designed a trephine which is said to be very safe and easily managed.)

Schwartz says further that a narrow opening, such as made by a drill or trephine, allows of only a partial irrigation of the diseased cavity and soon granulations keep the fluid from flowing out through the artificial fistula.

Thus we see that the chisel takes the prominence.

The operation itself consists of three steps—after shaving and cleansing antiseptically the mastoid region—(a) an incision in the skin from one to two inches in length down to the periosteum, about one centimeter behind the bony external meatus. This incision should have as its center the point opposite the bony external auditory meatus. (b) The periosteum is next incised and the field of operation is made clear by separating the periosteum as far forward as the bony external meatus, and superiorly to the linea temporalis. (c) The use of chisel and gouges in opening the cells.

*Medical Record, July 24, 1886, p. 103.

†Treatise on the Diseases of the Ear, Roosa, p. 506.

‡Medical Record, July 24, 1886, p. 103.

§Medical Record, August 3, 1889, p. 135.

The antrum is usually the point that we wish to reach. Remembering the superior line of safety, the linea temporalis, we make our opening in the superior and anterior quadrant of the mastoid process, from five to ten millimeters behind the meatus and about one centimeter below the linea temporalis. *The chisel should be used cautiously, and held in an oblique direction, and when near the linea temporalis, in a direction downwards and forwards. The opening in the cortex of the bone should not be more than twelve millimeters in diameter. A funnel-shaped excavation should be made of a depth of twelve to eighteen millimeters, until the antrum is reached. Sometimes, however, in cases of much thickening of the bone it may be necessary to go to the depth of twenty or even twenty-five millimeters, but never deeper than this, as there would be great danger of wounding the facial nerve or the labyrinth. Diseased bone and granulations should be carefully and thoroughly removed, and antisepsis strictly maintained. The after treatment consists of keeping the patient in bed, and keeping the wounded bone and soft parts open under careful antisepsis. Should the sinus be opened, the opening should be immediately tightly plugged with an antiseptic tampon and the operation suspended for the time.

†The statistics as to the benefit derived from this operation show as follows :

Of three hundred cases reported, by Schwartz, Lucae and Jacobson, and from the Halle clinic, sixty per cent. recovered, forty-six fatal cases, or fifteen per cent.; cases under treatment at time of report about twenty-five per cent.

Of the forty-six fatal cases only two could be charged to the operation itself. In one case the dura was injured and a traumatic meningitis followed. In the other there was a direct injury of the brain followed by *septic* meningitis.

Of seven cases that were reported by Roosa, in which the mastoid was operated on, and which proved fatal, none of the unfortunate results could be traced to the operation itself.

Mygind, of Copenhagen, describes one case, that died suddenly, seven days after operation, while apparently convalesc-

*Annual of Universal Medical Sciences, 1889, Volume IV, Chapter 46.

†Annual of Universal Medical Sciences, 1889, Volume IV, Chapter 46.

ing. In this case death was due to embolus of the pulmonary artery.

Huntington Richards, at the twenty-third annual meeting of the American Otological Society, reported at length a fatal case of mastoid sclerosis, in which the mastoid was operated on, but no antrum was found and a further extension of the operation failed to reach a distinguishable tympanic cavity, and no pus was found.

Buck describes a case, in which at the operation for opening the mastoid cells no pus was found, and in which the fatal end was reached in fifteen days. After death caries of the antrum, roof of tympanum and "adjacent bony structures" was found. In this case the question might be asked, was the operation carried to a sufficient extent?

A very interesting and instructive *case, as showing the results of not operating at an early stage, is one described by Finlayson and Barr, before the Glasgow Pathological and Clinical Society, and which I will quote entire as reported.

"The patient, a man aged twenty-two years, had suffered from fetid otorrhea since his fourth year. As a result of injury to the external auditory canal his chronic ear disease assumed acute conditions, and the man soon showed symptoms of cerebro spinal meningitis. There were a few polypoid growths in the meatus of the affected ear (right). *There was no local evidence of mastoid disease.* There had been slight paralysis of the right facial nerve since the outset of these symptoms.

"The patient died in a comatose condition. At the autopsy there was found thrombosis of the *right* longitudinal sinus, purulent exudation at edge of longitudinal fissure at upper part of frontal convolution, also on left side of posterior part of frontal convolution. Much fluid was found at the base of the brain, which was purulent near the medulla. Adherence of the membranes to the bone existed at the right internal auditory meatus; here also was a spot of necrosed tissue, which involved the anterior extremity of the right lobe of the cerebellum and the side of the pons (slightly) at its posterior part. The base of the brain showed extensive purulent

*Annual of Universal Medical Sciences, 1890, Volume IV, Chapter 30.

inflammation, this process seeming to extend from the necrosed point above mentioned. In short the entire surface of the brain presented this condition in localized spots as the result of this process. Fetid pus oozed from the internal auditory meatus. The membrana tympani was almost completely destroyed, and the tympanum filled with a mass of granulations, in which the ossicles displaced from the normal position were buried, the incus having disappeared. The facial nerve of right side was denuded of its bony casing. The *mastoid* cells were converted into hard dense bone, but the antrum, larger than usual, was filled with thickened mucous membrane, granulations and decomposing caseous pus. The labyrinth wall of tympanum had been perforated by carious openings, communicating with the external semi circular canal, vestibule and cochlea. The fenestra ovalis was enlarged by carious erosion, and the stapes foot-plate entirely separated from it. The fenestra rotunda was closed by hyperostosis. The inner vestibular wall was eroded and the scala vestibuli and the two mouths of the semi-circular canals exposed. Within, the facial and auditory nerves were inseparably united, the pus having evidently passed through this canal to reach the brain."

This case, through the thoroughness of the autopsy and the completeness of its report, is perhaps the most instructive one on record as showing the great power of pent up secretions, to do harm in this region and the great importance of early recognition and early radical treatment, having for its object the establishing of free drainage.

Another case reported by *Roosa shows this, that often an extensive operation is necessary if permanent relief is to be obtained, as not until the third and thorough operation was performed was a satisfactory result obtained with recovery of the patient.

By the observation of many cases, by the teaching of masters in this subject and by a careful study of the literature on middle ear and mastoid diseases, this is finally impressed on my mind,—the necessity of early recognition of disease in the mastoid, promptness and thoroughness in the removal of

*Treatise on Diseases of the Ear, p. 522.

diseased tissue, and the establishing a free system of drainage.

I am well aware that this subject has been but very incompletely touched upon, and that we must make a study of abscess of the brain, meningitis, septicemia, etc., which complications may be present with or as sequelae of mastoid disease, and which emphasize this, that if the mastoid is to be opened, for its best results it should be opened *early* and *thoroughly*.

PYOKTANIN IN SURGERY.

BY LEONARD B. ALMY, A.B., M.D.

In the report on the progress of Surgery for 1890 and 1891, at the meeting of our society last year, I stated that, in my opinion, one of the most valuable additions to our Surgical Pharmacopœia was "Pyoktanin," Anglicè "The Pus-Destroyer." After another year's experience I have only to reiterate the statement originally made.

Pyoktanin, or β Methyl Violet, is one of the aniline dyes and is found in two forms, the *blue* and the *yellow*. Why blue pyoktanin is so called, I do not know, for it is of a brilliant violet or purple color in solution and a metallic purple in crystals.

It was first brought into notice, in the early part of 1890, by Professor Stilling, of Vienna, and was and is still furnished by Merck. The claims made for it by Stilling were so positive that numerous surgeons used the new antiseptic with, as might be expected, somewhat varying results. Soon the adverse side began to be heard, and we were given to understand that pyoktanin was absolutely useless. As a matter of course, it will not stop the secretion of pus in caries of the vertebrae or in pyosalpinx, but in my experience with it, it will do more toward lessening the amount of pus in most cases, and thereby eliminating the danger of pyemia and allied diseases, than any antiseptic which it has been my fortune to use.

With your permission I will give short synopses of a few surgical cases occurring in my practice and afterward will briefly give the opinions of various surgeons as regards to its efficacy.

Case I had been suffering from glandular mastitis, which was opened antiseptically, but, as occurs in some of these cases, lobule after lobule became involved. Finally after the

disease had spent itself, there remained an ulcerated place as large as a half dollar, which refused to heal under the use of nearly everything. I remembered Merck's circular and sent for some blue pyoktanin. After cleansing the sore I dusted the crystals over it and put on an antiseptic dressing. In a week I took down the dressing and there had been no discharge from the wound. As a precaution I gave it another dusting, and had no trouble from it whatever.

Case II was one of severe conjunctivitis, which, in a woman of decided scrofulous tendency, had a marked desire to become purulent in character, with some iritis, and the outlook for the eye seemed to be poor. By the use of pyoktanin solution, one to five hundred and one to one thousand twice a day, the secretion of pus was markedly lessened, and very soon there was a mild conjunctivitis, which went on to a favorable termination.

Cases III, IV, V, VI, VII, were all cases of corneal ulcer, and were treated by the application of pyoktanin pencil to the ulcer, and the use of a one to one thousand solution twice daily. The effect in each case was almost magical. One, at most two, applications of the pencil were all that was needed. The application was not painful, the ulcers healed and the accompanying inflammation subsided in a few days. In one case where it was not possible to use the pencil, on account of the unruly disposition of the child, the powder was blown on the ulcer with a powder-blower, and the result was excellent.

In minor surgery, such as finger amputations and lacerations, the beneficial effects of pyoktanin are very noticeable. After any minor operation, after the wound is closed, and before the dressings are put on, painting the length of the wound with pyoktanin pencil seems to make much more sure the chance of primary union.

On many occasions I have had patients request me, in cases of lacerated wounds, to use "that dye stuff", as it was so comfortable.

As a dressing, I frequently use sterilized lint wet with a one to five hundred solution of pyoktanin, and have every reason to be satisfied with the results. At each dressing each

portion of the wound, after antiseptic cleansing, is injected with a one to five hundred solution. In cases where trouble is to be apprehended from any cause, the use of pyoktanin seems to do away with any germ disease which we may fear.

The most marked effect which I have had since using pyoktanin was a case of double amputation of the forearms, for an accident with a dynamite cartridge. The shock of the injury was very great, and as the patient was sixty-five years of age, the prognosis was not good. The shock to the tissues seemed to take away all tendency to repair, and though every precaution was taken to procure complete antisepsis, at the end of a week, the tissues, though healthy, had no desire to agglutinate. We were obliged therefore to let the wounds heal by granulation. After a day or two on the second week the leg stump showed some lymphangitis, with a decided suspicion of erysipelas. The inner side of the arm was red to the axilla, was boggy and looked altogether bad. Temperature 102.6°. Up to this time I had been using the sublimate gauze dressing and carbolic acid solution for cleansing the wound. Thinking that under the circumstances a change might be beneficial, pyoktanin treatment was instituted. The whole inner portion of the arm was painted with a pyoktanin pencil and a line drawn around the arm with the same. A one to five hundred solution was injected into every part of the wound and a sterilized lint dressing wet with the same solution and covered by sublimate gauze and oakum was put on.

The next day the temperature had fallen to 99° and the appearance of things had changed entirely; the tissues were softer, the tenderness was gone and the case progressed favorably until the patient was in a condition to be moved, when he left town and I lost sight of him. In this case I have no doubt but the free use of pyoktanin saved the man's life. As a corollary in this case, the patient had several small lacerated wounds, one of the eyebrow, one of the lip; a severe wound, though not large, of the right thigh, where the skin was carried into the wound and was extracted with some difficulty. In all of these wounds the pyoktanin pencil was freely used, and nothing else done to them and they all

healed without a trace of pus. The only objections to the use of pyoktanin are its cost and its staining properties. It is a dye, as one finds very shortly, and it stains the hands of the operator if he is not extremely careful and sometimes if he is. But this objection is made of no account, when we consider the ease with which the stains can be removed. It is only necessary to rub on common soap to make a lather and then wash off both soap and stain with alcohol, if necessary using a nail-brush. One peculiarity about pyoktanin is its behavior in the presence of a slough. It has no apparent effect on sloughing tissue, unless to retard its separation. It does not stain the slough as it does the other tissues.

Pyoktanin has been used in all cases where there is secretion of pus.

Dr. Norton, of New York, expresses himself as follows with regard to its use in diseases of the eye and ear: **"In none of the cases have I seen the slightest bad effect from its use, and I unqualifiedly endorse pyoktanin in diseases of the eye and ear."* It has been used by some operators in cases of purulent trouble following cataract operations and it is claimed that, by its use, eyes have been saved which would otherwise have been undoubtedly lost.

Dr. Marchette, of the University of Palermo, has used the blue pyoktanin with great success in Dacrocystitis, Corneal infiltration, Hypopyon-Keratitis, Panophthalmia following cataract operations, etc. Time forbids me to give his views at length. Neucki, of Warsaw, reports the successful treatment of obstinate cystitis, by the injection of a one to five hundred solution of pyoktanin twice a day. On the second day marked improvement was noticed and the cases were cured in from ten to fourteen days, after other treatment had been tried without success.

Janike found that exceedingly small traces of pyoktanin, added to bacteriological cultures, sufficed to arrest the growth and development, even destroying most of the important pathological bacilli.

In this connection I will take the liberty of reporting a case in which the beneficial effects of pyoktanin were very marked.

*Proceedings Connecticut Medical Society, 1891, p. 168.

The case occurred after the major portion of this paper was written and consequently not inserted in its proper place. I had ligated the femoral artery for an enormous popliteal aneurism and had applied a sublimate gauze dressing, and inserted a drainage tube. On the fourth day the dressings were to be removed to take out the tube. It was found on reaching the patient, who lived in a miserable little house, with very poor sanitary arrangements, that, in some way, he had loosened the dressings, and when I examined the wound, it was entirely bare of any dressing, and covered only by a sheet, which might once have been white, but had, evidently, not been in the wash-tub for some time. The wound was agglutinated; but there was a suspicious redness to the eyes, and a large patch of reddish skin stretching up to the groin. A little pus was discharging from the drainage-tube. The opening left after its withdrawal was syringed with a one to five hundred pyoktanin solution and the whole of the wound and the erysipelatous patch was painted with the pencil. Three days later the dressing was again taken down to remove the stitches, and the wound was entirely healed except where the drain had been, and there was no further trouble whatever.

From this and other cases I am becoming of the opinion that pyoktanin will in many cases abort impending erysipelas.

Experiments upon animals show that a two per cent. solution of pyoktanin renders tuberculous sputa innoxious when injected.

As might naturally be expected, pyoktanin was soon used in cancerous affections, especially in ulcerated cancer. Some surgeons report good results from its use; others state that it is without any value.

In my slight experience with it in these diseases, I have not been impressed with its results for good.

I have used it in cases which were not fit for operation, and did not see any results from it whatever. In one case of Paget's disease of the nipple, it seemed to cause a slight tendency to heal, but not enough to continue its use. It is stated, however, that to be effective the fresh solution must be injected frequently into the tumor, and the external dressing made of the same. In cases which are beyond

operation we may possibly make the sufferer a little more comfortable by its use and avert for a time the inevitable termination.

In making this brief statement in regard to blue pyoktanin I have given as briefly as possible some of the salient features with regard to its use. As I stated early in the paper, it has been used in almost every disease characterized by the formation of pus. It will not do everything, any more than any of our numerous so-called specifics. It is necessary that the solution should be made fresh, as in solution it soon loses its pus-destroying power without any change in color.

I have omitted the literature of the drug almost entirely, and in conclusion I would ask the surgeons who hear me, to give pyoktanin a thorough trial and then wash off the stains with soap and alcohol, and I think that they will agree with me that its power for good more than compensates for its staining properties.

THE MEDICO LEGAL ASPECT OF CHLOROFORM.

BY W. A. M. WAINWRIGHT, M.D., HARTFORD.

In the address on Anesthesia delivered before the International Congress at Berlin, August, 1890, Professor H. C. Wood, of Philadelphia, made this statement: "From far-off Australia comes the news that jury and judge have condemned to heavy penalty a chloroformist who had lost his patient; and in England itself a well-known Medical Journal lends support to such a verdict by affirming that 'deaths from chloroform are preventable; that with due care they may be avoided;' and that, therefore, when they occur, they are the result of ignorance or carelessness. Five hundred surgeons, including such names as Billroth, Jaeger, Simpson, McLeod, Agnew, Hunter McGuire and others of equal rank, guilty of manslaughter. *And still the carnage goes on.*"

He makes this further statement: "The surgeon who uses ether feels that he has employed the safest anesthetic, and that he will receive no blame if a death occurs from the anesthetic; and feels also that he has a rare case, which will give his own name a permanent place in anesthetic literature; whereas the surgeon who uses chloroform, knows that if death occur from the anesthetic, a very large proportion of the profession, at least in the United States, will condemn him either in public or in secret, and that he will be fortunate if he escapes being publicly condemned by a coroner's jury."

These statements, if correct, are of serious import, and it is time for us to stop and reflect upon them. The subject is one of grave importance to us and to our patients; and one that should frankly come before the profession, and be frankly met.

The question is, "Are we to give up the use of chloroform in our surgical operations?" I presume that the most enthu-

siastic advocate of the danger of chloroform would hardly claim that its use should be dropped entirely from obstetric practice. If the statements made by Dr. Wood *are* correct, it is time that we, who are performing surgical operations, should know where we are, and where our brother practitioners are going to stand in regard to us. The question of the relative danger between chloroform and ether does not rightfully enter into this discussion. There is, of course, no denying the fact that chloroform is, in the abstract, more dangerous than ether. But the relative danger in any individual case is very slight, if statistical evidence is to be believed.

Hunter McGuire, during his service as Medical Director of Stonewall Jackson's Confederate Army Corps, saw twenty-eight thousand chloroform administrations without a single death. Nussbaum, forty thousand similar administrations without a death. Chisolm reports fifteen thousand without a death.

As it seems to be an admitted fact that chloroform is less dangerous in hot climates, I refer, not for argument, but as a matter of interest, to the report of Surgeon-General Lowrie, who has witnessed between forty and fifty thousand administrations of chloroform without a single death; and from an Egyptian Hospital comes the report that it has been administered five thousand times without a single fatal accident.

Lyman puts the ratio of deaths from chloroform as one in fifteen thousand, eight hundred and sixty. Richardson, one in two thousand five hundred or three thousand. Are we to take advantage of this apparent safety, and continue to use chloroform where we think it best to do so, or are we to discard it entirely from our *Armentarium Chirurgicum*, because it is a more powerful and dangerous drug than ether?

If we are to be subjected to suits for malpractice in case we are unfortunate enough to lose a patient from its use; and if the profession at large is going to side against us, we shall be obliged to do so. It is, as I have said, a serious matter, and I think we have a right to know what we are to expect from our professional brethren.

Dr. M. M. Johnson, of Hartford, in an essay on this subject read before the Hartford County Medical Society, rightly

takes the ground that "in all the affairs of life we are required to use ordinary diligence, care and skill in all our doings. When a person has used ordinary diligence, care and skill, no blame can be attached to his doings." I would go a step further and say, that in the administration of chloroform where a human life may be at stake, *EXTRA ordinary* diligence and care should be used. The doctor, however, leaves it to be inferred that as chloroform is more dangerous than ether, the surgeon does not use the ordinary diligence, care and skill to which his patient is entitled, when he ventures to use the former anesthetic; and by so doing, renders himself liable to the law.

And in this position he seems to be upheld by Professor Wood. If this ground is tenable, I see no reason why a suit for malpractice should not be brought against the surgeon who kills a patient by the administration of chloroform.

Under the old common law, the surgeon was safe. I quote from 25 Conn. Reports, 265:—

"At the common law, a party is not liable, civiliter, for the destruction of human life, whatever the nature of the consequences may be, or however clearly such a wrong may involve pecuniary damages."

The statute law has, in this state, superseded the common law, and cause for action does not die with the party injured. Upon this point I am permitted to quote from a letter upon the subject, received from the Hon. Nathaniel Shipman, Judge of the United States Circuit Court of Appeals:

"All action for injury to the person, *whether the same do or do not instantaneously or otherwise result in death*, shall survive to his executor or administrator. So that all causes for action for malpractice, whether resulting immediately or not in death, can be sued upon by the executor or administrator, with a proviso that the cause of action must not have arisen more than one year before the death, which is not material to the naked question which you asked."

It is not within the scope of this essay to discuss the kind of cases in which chloroform would appear to be the best and safest anesthetic to use; nor whether one method of administration is safer than another.

Arguments which could easily be brought forward on the one side, could be answered by arguments just as easily brought forward on the other.

My own belief is, that chloroform is just as safe a drug to use as opium, strychnia, or hydrocyanic acid, and that we are perfectly justified in using it. I believe that in many cases it is a safer drug to use than ether. An infinitely greater number of our patients die from the effects of our surgical operations, than die from the effects of the anesthetic which is given to make the operation possible, and one might as well say that we should beat our scalpels into plough-shares and our lithotrites into pruning-hooks, because once in a while a life is lost by means of them. I would never willingly tell a patient that any surgical operation was absolutely safe, nor would I willingly tell a patient that the administration of either chloroform or ether was absolutely safe; but I should no more hesitate to give chloroform in the one case, than I should hesitate to perform the operation in the other. At the same time, as the patient or the patient's friends should share with the surgeon the responsibility of the operation, so should they share with him the danger of the anesthetic. And in those cases where it seems best to the surgeon, if the patient is willing to take the risk of the more dangerous, but in a number of cases the more agreeable anesthetic, the surgeon is, in my judgment, perfectly justified in using it; and thereby does, in my judgment, exercise the "ordinary diligence, care and skill" that the law calls upon him to use; and he should not be held accountable to law either human or divine, if the dreadful calamity falls to his lot of sending a human soul to its Creator,

"Cut off (perchance) even in the blossoms of its sin,
Unhousel'd, unanointed, unanel'd,
No reckoning made, but sent to its account,
With all its imperfections on its head."

This paper was discussed by Dr. Storrs, who spoke as follows:

This is an interesting matter for us to consider. In all the relations of life the question of responsibility is coming more

and more to the front. Individuals, towns, cities and common carriers are holden responsible for whatever negligence contributes to the harm of others. No profession stands so much in jeopardy as our own. Who ever heard of damages claimed from the clergy or from the legal profession; but if one of a thousand mishaps can be construed as due to any fault of ours, we are held liable in a suit for damages with all the annoyances and costs of a defense and left to the mercy of the jury. I notice in a recent journal Dr. Lawson Tait is brought into court for giving an opinion contrary and damaging to that of others. The public even demand that the court shall decide that a surgeon must warrant the success of an operation.

But in regard to the use of chloroform there are contingencies of a complicated and embarrassing nature. I quote from the address of Dr. Wood at the International Congress. He says, "On the other hand the death-roll of anesthesia is daily added to—added to, according to my belief, at a rate that is not changed in forty years. Though this be true, from far off Australia comes the news that jury and judge have condemned to heavy penalty a chloroformist who had lost his patient; and in England itself a well-known Medical Journal lends support to such a verdict by affirming that 'deaths from chloroform are preventable, that with due care they may be avoided,' and that therefore when they occur they are the result of ignorance and carelessness. If this be true, five hundred and more,—the result of ignorance or carelessness. Five hundred surgeons, including such names as Billroth, Jaeger, Simpson, McLeod, Agnew, Hunter McGuire and others of equal rank, guilty of manslaughter. And still the carnage goes on." And again he says, "I cannot see that the surgeon is justified in putting the life of the patient to unnecessary risk of chloroformisation, except under special circumstances." If such sentiments take possession of the medical mind the surgeon has very little standing-room in court. In this country no suit has ever been brought. The case cited above at Sidney where a verdict of two hundred pounds was awarded, the jury found 'that the anesthetic was improperly administered and the patient subsequently neglected.' We are not in possession of the facts, but the death would be *prima facie* evidence of negli-

gence, according to the views of the London *Lancet*. But if we are not estopped by any such unreasonable claim and left to discuss the proper modes of administration and what constitutes negligence, we have even then a complicated question for the courts to solve. Have we any certain and best method of giving chloroform? So long as we are ignorant of its action can we have? There are various theories of how it acts. Some suppose upon the protagon of the nerve-cell or upon the red globules of the blood and in various other ways.

What chance have we to solve these microscopic and recondite effects, when at the same time the world is divided in twain on more tangible questions, such as whether chloroform acts first and chiefly upon the heart or the lungs and whether upon the peripheral nerves or the nervous centers.

So, take the best formulated rules for administration and it will be found that exceptions will be taken by equally high authority to every cardinal point in turn. Good surgeons as a rule previously examine the heart and other organs, but at Hyderabad the heart is not allowed to be examined, the attention being concentrated upon the breathing, and there they have never lost a case. The Hyderabad Commission and the British Medical Association Committee are trying to solve these points. There is no agreement either as to the narcotic or lethal doses of chloroform. The limit in some animals is very narrow and in persons, varies in different individuals. The all-pervasive effects of chloroform upon the system, its effects upon different organs, have not been sufficiently examined in their normal or abnormal state; neither can all the conditions of brain, heart and kidneys incompatible with chloroform be made out. How will the responsibility between the giver of chloroform, the operator and attendants be made out?

All these complications mentioned show how difficult is the determination of responsibility. As said before, our courts have never confronted the question of chloroform responsibility, neither have its legal aspects been discussed to any extent in our medical literature. But none feel the responsibility as much as the careful and conscientious surgeon. The careless or ignorant giving of either chloroform or ether ought to be censured or punished.

The fact that statistics show that ether is safer than chloroform does not make the surgeon giving chloroform blameable in the case of an accident. There are considerations that make chloroform so highly preferable that more than half the world is using it. The risk must be assumed by the patient. Before the court the surgeon will stand justified in having used an accepted and lawful agent. His only concern will be as to its being carefully used and with a full knowledge of his patient's condition. But the unavoidable accident will happen. When it does, the physician's duty is to favor a thorough investigation. If the coroner finds from the facts that every possible care has been used, the verdict will go a long way in arresting any legal proceeding for damages. More than this cannot be done unless a written guarantee is required of the party that in any event the surgeon shall be saved from harm, the patient assuming the risk. Good legal counsel advise that this precaution should be taken.

DISSECTION WOUNDS.

BY AUGUSTIN A. CRANE, M.D., SOUTHFORD.

In 1732 occurred the "Strange case of Mr. Cox, who fell into a pestilential fever on tapping a corpse lately died of an hydropsy."

Since 1732 there have occurred many more strange cases of medical practitioners who from similar causes have fallen into a "pestilential fever;" and we all live with the realization that although exempt up to the present time, our next autopsy, or dissection, may bring us into the same unfortunate plight with Mr. Cox.

Probably the majority of medical men escape such infection; but the minority, who do suffer, is so large, the attack is so sudden and insidious, and the effects, immediate and remote, are so severe, that we are led to inquire as to the nature of this infection, and the probabilities of its management in the way of prevention and cure. There are a number here to-day and in almost every medical gathering, who will ever bear cicatrices on their bodies and memories in their minds as grim proofs of the virulence of the cadaveric poison. To all these who have suffered and to those who have not, but may be the next to do so, a consideration of this subject is intensely practical.

That the infection is infrequent is of no advantage to him who *is* infected. That the most prominent clinic of practitioners in Anatomy and Operative Surgery in New York had for seven years, and with over six hundred matriculants, not a single case of injury from the cadaver, is small consolation for the six hundred and first if he happen to break the record, as did the writer.

Let us then turn for a moment from our usual consideration of how to cure and prevent disease in our clients and consider

wherein we may make *ourselves* more secure from danger in carrying out our duties under exposure and whereby we may better cure and be cured when the evil has once commenced.

As regards the nature and method of infection, and the nature and course of the effects, current experience and recorded views are practically uniform. The history of inoculation through a minute wound or preexisting abrasion is almost always clear, or if not, is assured. Paget however denies the necessity of this, and insists that he was once severely infected through the sound unbroken skin.

The hands are naturally the favorite seat of infection. The most virulent elements are those which escape before a body reaches the dissecting-room, thus making the dissecting-table safer than the post-mortem table. The nature of the infection may depend upon the cause of the subject's death, as in the case of pyemia, septicemia and diphtheria.

The amount of poison received is no criterion as to the extent or severity of the effects, and the virus, when once formed is independent of the source from which it was derived.

The described course of the disease is familiar and unmistakable.

Very early comes a point of tenderness and redness at the seat of injury. This soon becomes very painful and of a characteristic dusky color. A small ashy gray vesicle may appear, so superficial that its opening is of no relief to the condition. Early fever, with systemic depression, dry skin and furred tongue comes as the local manifestations increase. Instead of the finger-tip it is the whole finger, then the hand and so on up. Even when the measures taken are active and prompt, the septic process seems to keep just ahead of its pursurers. Lymphangitis and swollen auxiliary glands will appear in the face of vigorous treatment and he is lucky who escapes without the process extending down the chest and side. The systemic condition keeps pace with the local, and with increased fever we find pain in the head and limbs, insomnia and frequently albuminuria and sluggish intellect.

Besides this typical course, other forms of lesion are described. Agnew mentions an "irritable, sloughing ulcer of the hand," very intractable, but without great systemic dis-

turbances. Another phase of the poison is the so-called "anatomical tubercle;" better named the "pathogenic wart," usually on the posterior aspect of the hand, not serious in nature except as it is difficult to cure. At other times, the only manifestations of sepsis may be a crop of boils, or carbuncles, or a few small pustules which may vanish without producing any further effects.

There are unquestioned cases of inoculation with tuberculosis from the cadaver, though I know of none that were not cured by timely excision of the affected area. In view of the great proportion of tuberculous subjects among the bodies handled, this is a phase of the matter which deserves careful attention in treatment.

It is better to lock our stables before the horses are stolen and if any amount of care could secure complete prophylaxis, remarks on treatment would be superfluous. But when we are dealing with such virulent agents as are here involved, I cannot believe that complete immunity can be obtained by any amount of care. It is easy for those who have been greatly exposed and not infected to ascribe the misfortunes of their less fortunate brothers to carelessness; but infection is only too common in cases where the means of protection have been intelligently applied.

There is a partial immunity gained by a healthy state of the system by a full stomach, and most of all by a constant exposure and acclimatization of the hands, as in the case of anatomists, pathologists and butchers. The protection of a coat of acetic acid or collodion or rubber gloves may afford a false sense of security, and thereby defeat itself.

The age of the subjects usually found in the dissecting-room and the chemicals with which these are injected are elements of safety. The practice of cauterization, unless preceded by expression of the pathogenic material from the part and the flowing of some blood, only adds to the danger. A greater expressive force can be obtained by milking out the blood with the fingers than by suction. Where the initial wound is minute, it should be enlarged so as to permit hemorrhage and disinfection. If there must be a delay before thorough attention can be given to the primary wound, it is of

advantage to promptly ligate the injured finger or member until the wound can be properly cared for.

Reference to the general text-books shows a rich variety of treatment. Roberts (1890) after outlining the accepted line of treatment quotes the authority of "It is said," that inflammation may sometimes be arrested by a blister around the limb above the wound as soon as the red lines appear. Another authority advises that the initial cut be closed with a strip of plaster and when in spite of these heroic measures, the trouble advances, place a "sanitary cordon" of silver or iodine around the limb. The *modus operandi* is not entered into. It would seem that the "sanitary cordon" were deployed about the arm to reconnoitre and endeavor to intimidate the microbes of suppuration which were swarming up the deep lymphatics and destroying the tendon sheaths. The blister might act as a moat, and both moat and cordon might be very efficient could the invading forces only be persuaded to come that way.

But if we are to criticise the treatment of others we must suggest a better. There is none better, in fact none other, than that urged more or less emphatically by all who appreciate the gravity of the situation, namely, **EARLY AND FREE INCISION!**

The only question would hinge on the interpretation of the terms *early and free*. By "early" cannot at the present day, be meant, when suppuration is established and fluctuation found. "Early" in antiseptic surgery I take to mean at the very beginning of suppuration, before fluctuation *can* appear (which may be never) where exploratory puncture at the point of greatest tenderness, may reveal a drop of pus, or even where none is found. The relief of tension; the opportunity to treat locally and antiseptically an otherwise inaccessible focus of infection and inflammation may absorb or even avert suppuration. There are cases and severe cases accompanied with profound systemic toxemia, where there is little or no tendency to suppuration, where the tissues suffer a localized gangrene with no external signs save tenderness and moderate swelling, and where the surgeon who poulticed and waited for suppuration to establish, would poultice and wait in vain. It is well said that the best antiphlogistic is the "*knife*."

Especially where there is suppuration of tendon sheaths or under the palmar fascia, do we see the pernicious effects of temporizing. Second only to the danger of life and limb are the evils of contracted scars, distorted joints, and tendons adherent to their sheaths or entirely sloughed away. These permanent local effects are so disfiguring and upon a surgeon so disabling, that we should treat with that radical boldness, which is the truest conservatism, any suspected involvement of these tissues. An early use of the knife and spoon may at this time make the difference between a useful and a useless hand.

To describe the further treatment in detail is to rehearse the treatment of septic cellulitis, lymphangitis, lymphadenitis and septicemia, except that the extremely virulent character of the infection necessitates especially prompt and decisive treatment in this class of phlegmonous inflammation. If the process advances, further incisions should be made promptly and freely, and where tissues are necrotic the Volkman sharp spoon should reinforce the knife.

With no reliance on the poultice, as commonly used, but with our trust in the knife, with the antiseptic moist dressing as an auxilliary, in severe cases adding irrigation or sublimate bath, with rest in bed and vertical elevation of the part, with cold upon the glands if there is hope of saving them, with mercurial ointment, not as a "sanitary cordon about the limb," but as a sedative application along the engorged lymphatic, with energetic supporting and stimulating measures and avoidance, if possible, of such antipyretics as obscure the picture and deceive both patient and attendant; with these measures, with some or all of them, according to the case, we feel that we are fighting a powerful enemy with powerful weapons on his own grounds and not waiting for him to scale our walls before he is intercepted.

OPHTHALMOLOGY.

THE PROGRESS OF THE CENTURY IN OPHTHALMOLOGY.

BY S. B. ST. JOHN, B.A., M.D., HARTFORD.

The progress of the century in the department of Ophthalmology pre-supposes for its intelligent conception, some idea of the position of the science in the latter half of the eighteenth century.

The advances of the past fifty years have been so marked, so almost revolutionary, that one feels inclined at first to ignore the past and to say boldly, that *all* the progress has been made during the last one hundred years. A few hours research, however, will convince him that such is not the case, that although he will find quackery and mysticism and necromancy dominating ophthalmology—during the Dark Ages—yet if he goes still further back he will discover that the specialty, as such, was cultivated and that too with no mean skill, before Abraham was born. He will find that of the six sacred Egyptian books, written on papyrus, containing medical knowledge and giving rules for the practice of the physicians, one was devoted exclusively to Ophthalmology (Hirsch, *Gesch. der Ophth. G. and S. Augenheilkunde*). Herodotus tells us that an Egyptian oculist was sent for to treat the eyes of the mother of Cyrus, the Persian. Presumably the blazing heat, blinding glare and irritation of the flying sand in Egypt rendered the specialty an especially important one in that country.

The medical men of the Indies had the crudest of ideas regarding the anatomy of the eye, which they held to be com-

posed of five elementary materials: muscles, representing earth; blood, representing fire; the white sclera, representing water, and the dark iris and choroid, representing air, while the tear passages stood for the final element, or ether. It is indeed singular to find appended to such a fanciful makeup, the following almost modern list of causes of eye disease, viz.: bathing when heated, straining eyes in looking far off, or at very small objects, lack of sleep, too much wine, excitement from sorrow, excessive venery, the use of decomposed food, insufficient illumination and irritation from smoke. They recognized seventy-six diseases of the eye, twenty-one being of the lids, eleven of the sclera, four of the iris, twelve of the lens, and seven of the whole eye. Nor was their therapeusis so unlike ours. They use hot fomentations, blood-letting and purging, cold applications, fumigations, snuffs, collyria. They removed pterygium by the knife and excised the skin of the lid to correct inversion. They operated for cataract by incising the cornea, introducing a flat probe and pressing the lens back into the vitreous, which was essentially the reclination of cataract practiced in the last century.

Not all ancient ophthalmology, however, comes so nearly in touch with our methods. The Egyptian idea, for example, that cataract was a fluid formed outside the eye and driven into the eye by heat, led to the practice known as "periscythismus" which meant making an incision to the bone across the forehead and laying in a tent of charpie saturated with oil and wine and subsequently scraping the bone. A variation was, making three vertical incisions an inch apart. If the fluid was supposed to have entered the eye and to be coagulating, incisions were made across the scalp from ear to ear and from the root of nose to the occiput. (Spalding, Trans. Maine Med. Soc. 1881.)

The only treatment approaching this for boldness and butchery in this department is that suggested by Hippocrates where he says "when one loses his vision but the eyes remain sound, the forehead should be incised, the skin dissected up, the bones sawed open and the fluid evacuated; vision will then be restored."

Justus (contemporary of Galen) pretended to cure abscess

of the cornea by violently shaking the patient's head till the abscess burst. In contrast to these bits of savagery, we note that Celsus (first century) describes accurately nearly all diseases of the eye lids we know of and describes in all its details the condition known as pterygium giving methods of operating which are still in use.

Greek, Roman and Arabian surgeons considered ophthalmic diseases very important. They did not know the location of cataract. The lens was regarded as the organ of vision or center from the axis of vision, supposing it to be in front of the lens. (This error was not corrected till 1707.) Cataracts were divided into those favorable and unfavorable for operation, and those unfavorable were treated by lotions which were applied for weeks at a time by a glass cup fitting accurately, the lotion being introduced through a small hole in the top. Sichel found in an Arab MSS. of the ninth century, the description and drawing of a hollow needle for aspirating cataract. Albucasis, the noted Arabian surgeon, mentions such an instrument as in use among the Persians, but says he never saw one.

The early Greeks had a more definite knowledge of the anatomy of the eye, which they regarded as made up of three enclosing and concentric envelopes corresponding to the sclera, choroid and retina, with enclosed soft masses. They did not know about the tear passages. Aristotle seems to have made a special study of the iris and noted that all babies' eyes are blue.

It appears that in Galen's time ladies knew and took advantage of a mydriatic to enlarge the pupils for cosmetic purposes. (Edit. Chartier t. x, p. 610.) There came a time of neglect of ocular studies, till the beginning of the Seventeenth century. In 1622, Richard Bannister, London, published a "Treatise of 113 Diseases of the Eye and Eye Liddes," and in 1686, Jean Ray notes the accidental discovery of the mydriatic action of belladonna leaves applied to an ulceration of the skin below the eye. Then more or less educated quacks came in and reaped a rich harvest, traveling from city to city with heralds to announce their coming and flourish of trumpets to indicate their arrival. The most remarkable of these was the

Chevalier John Taylor (first half of eighteenth century), who published works in English, French, Danish and Russian, when travelling through these countries. Geo. Bartisch (1583) was one of this class, and that he was not an ignoramus is evidenced by the fact that he was the first to suggest and perform enucleation, though he did it in a crude way as compared with the modern operation suggested by Bonnet. It is also said that he operated to cure strabismus.

Scientific ophthalmology begins with the eighteenth century. Panas says "ocular pathology then began to be specialized into pathology of cornea, sclera, etc. It then began to look for diathetic and specific causes. Phlyctenular ophthalmia, blepharitis ciliaris, ophthalmia neonatorum, iritis and its results, abscess and ulcer of the cornea, were first accurately described in the eighteenth century."

Maitre, Jan. (1707) and Brisseau (1709) first definitely established that cataract was seated in the lens. Daviel first extracted cataract in 1750, as a distinct methodical operation, others having removed dislocated lenses from the anterior chamber.

Perhaps the best idea of the condition of ophthalmic science in the eighteenth century may be had from a perusal of a little volume entitled, "A Treatise of the Diseases of the Eyes," by M. de St. Ives, surgeon-oculist, of Paris, 1741.

The anatomical descriptions are very good. Some of the terms used sound queerly, e. g. nasal pipe, (duct) optick hole, (foramen) lacrimal bag, (sac) blades of nose, (turbinated bones) ciliary productions, (processes).

The refraction myopia is described and presbyopia. Myopia is said to come from too great convexity of lens; presbyopia from too great flatness, and the method to be as follows: "When the nutritious juice necessary to maintain the convexity of the christalline is thin enough to flow the convexity is exact; when too thick the crystalline is flat." When we reflect that this was written one hundred years before it was mathematically demonstrated that the lens changes form in accommodation, it increases our respect for the acumen of the ancient oculists.

The choroid was then regarded as the sensitive perceptive

layer; the retina serving only to modify the passage of the rays of light on their way to the choroid—a sort of “epidermis” to temper the shock of light. Here it is interesting to note that the most recent investigations show that rays of light actually pass through nearly the whole thickness of the retina before producing the visual effect, and that it is the layer of the retina *next* the choroid (rods and cones) that has the function then ascribed to the choroid.

The diseases of the eye, says the author, depend for the most part upon a vitiated blood and are to be treated by cathartics, emetics, sudorifics and alteratives. Distension of the lacrymal sac is ascribed to thickening of the lymph or tears, and to be treated by “blood letting, purging, and a broth of veal, succory and crabs,” but we note that “injections through the lacrimal points are useful, though of no avail if after five days the injection does not go through into the throat. If lacrimal fistula exist, with caries, cauterize till the bone be pierced and blood flows into the nose.”

Squint in children was treated by orthopædic exercises before a looking-glass, bleeding, purging and emetics.

Classification of diseases seems to have been extremely crude and unscientific, as e. g., “Dry ophthalmia, where part of the sclera is red and part white”—probably phlyctenular conjunctivitis or scleritis.

“Humid ophthalmia,” apparently a form of purulent conjunctivitis “ophthalmia caused by defluxion from the brain.”

“Venereal ophthalmia” (said to be rare) explained as follows: “Two days after a virulent gonorrhea, the matter not running off by its usual passages, is removed to the eye.”

“Ophthalmia following inflammation choroid and uvea, followed by closure of pupil;” this is plainly irido-choroiditis.

Conjunctivitis was treated by a rude scarification, using the prickly beard of rye or wheat-ear. “Others glide a crooked needle under vessels connecting with the spot, ulcer or abscess and cut the vessels upon the conjunctiva.”

The treatment for removing blood in the anterior chamber, after operation for cataract savors of necromancy. It was to bleed a pigeon under the wing and drop some of the blood

into the operated eye for three days. There is here a suggestion of "similia similibus."

Asthenopia, evidently of the accommodative type, is called atrophy of the retina and ascribed to an irritation of the choroid from the failure of the retina to properly modify the light. He says, "no remedies cure this disease; nothing avails but rest and little use of the vision."

The ophthalmic writing of the period was confused, as witness the following from Duddell, (beginning of the eighteenth century). "The cataplexia of the eye which Hippocrates speaks of is when the eye has lost all sort of movement and all sensation of light which happens in epilepsies and great surprises and frights. Some call this the conic movement which is the paroxis or helcosis and abruption, precision or ulceration and solution of the continuity of the optic nerve caused by a stroke, wound, or sudden fall of humors or apostimation?" and again "The syntosis of Galen or syntomasis is a collaption, compression, flabbiness or narrowness of the said nerve which is affected by dryness or atrophy." I refrain from attempting an explanation of the above.

In the latter half of the eighteenth century, Petit suggested studying sections of frozen eyes, and this led to the discovery of Petit's canal, the inner layer of the cornea, or Descemet's membrane, the zone of Zinn, Fontana's space and the macula (quoted by Spalding).

In this period Cheselden first formed an artificial pupil, by incision (modern iridotomy). Maria Theresa founded at Vienna the first professorship of ophthalmology in the world. In 1773, Barth, of Vienna, was the first to deliver lectures on ophthalmic surgery with clinical demonstrations.

With the nineteenth century came a new impulse from the influence which the natural sciences had obtained upon the spirit and the practice of medicine; the influence of the study of the processes of organized life. (Hirsch).

In Italy, the famous anatomist Scarpa published (1801) a treatise on diseases of the eye which, translated into English, was for years the best manual on the subject.

Saunders (1804) founded the study of ophthalmology in England by establishing an eye and ear infirmary in London,

which is now the world-famed Royal London Ophthalmic Hospital. He was the first to recommend operation on cataract in infants, and published good papers on iritis and entropion.

It was about this time too that an epidemic of eye diseases among troops returning from service in Egypt aroused attention to the necessity of a more careful study of eye troubles, it being estimated that there were at one time over 5000 soldiers in England blind from the so-called Egyptian ophthalmia (purulent conjunctivitis).

Beer (1815) issued an elaborate work with accurate descriptions of various eye affections, but he divided and sub-divided too much and referred almost everything to some constitutional origin.

In 1817, lectures were given in London by Mr. Guthrie and Dr. Forbes on the anatomy and diseases of the eye. These lectures of Guthrie formed his work on *Operative Surgery of the Eye* (1823) the "first work in the English language in which an accurate and complete description is given of those affections of the eye requiring operation and of the different methods of operating." (Argyll Robertson, Ed. *Med. Journal*, Vol. VIII.) Then came treatises by Lawrence, Tyrrell, and McKenzie, and in Germany contemporaneously, journals of Von Graefe, Walther, and Von Ammon, Rosa, Jungken and Arlt.

This period was enriched by microscopical studies of the conjunctiva by Eble (1828); of the lymphatic system by Arnold, (1832); the discovery of the corneal nerves by Schlemm (1830); the choroidal pigment plates by Wharton Jones (1833); the study of the structure of the retina by Heinrich Muller (1840) and of the ciliary body by Bowman (1846).

In this period Beer devised iridectomy for artificial pupil and described hypopion. Bonnet improved enucleation, giving us essentially the modern operation. Petrequin first employed fixation of the eyeball during operations. Dieffenbach introduced operation for strabismus, (1840). Johann Schmidt (1801) gives the first clear picture of iritis and its results and notes the successful treatment of a case by the external and internal use of belladonna and hyosciamus, (one grain Ext. bell. every four hrs., and sol'n ext. hyosciami ʒi-ʒi aq. as col-

lyrium.) The noting of syphilitic iritis and its special treatment by hydrarg. is ascribed by some to Travers, the inflammation having been noted previously in those under treatment for syphilis by hydrarg. and ascribed to the hydrarg.

In physiological studies (Mariotte had discovered the blind-spot about 1670, but regarded it only as a curiosity), little progress was made till about 1825, when Purkinje discovered that during the act of accommodation the image of a candle-flame reflected from the anterior surface of the lens changes its place and from this as a starting point, Graefe, Th. Smith (1833), Forbes (1845), Cramer and Helmholtz (1851), established the fact that in accommodation the lens changes form. Bowman in England explained the action of the ciliary muscle in accomplishing this change of form. Investigation into the cause of the brilliant reflex in the eyes of the lower animals by Müller (1844) and Brücke (1844), and a paper by Mr. Cumming (1846) on the luminous appearance of the human eye seem to have aroused attention to the possibility of seeing into the human eye, and in 1852, Helmholtz showed that the blackness of the pupil was due to the fact that the incident and emergent rays had the same direction and that if the observer's eye could be placed in the track of the emergent rays without cutting off the incident rays, the pupil would be illuminated. The invention of the ophthalmoscope followed as a matter of course and the history of the progress of medical science in all departments fails to record any invention or discovery at all comparable to it, opening as it did, the door of an hitherto darkened chamber, whose secrets had previously been guessed at and discreetly discussed under the comprehensive and non-committal title of amaurosis of which a wit remarked that it was a disease in which the patient saw nothing and the doctor also nothing. Now, thanks to the immortal Helmholtz, the doctor sees the interior as clearly as the exterior, and through the insight thus gained, not seldom is enabled to give timely and efficient aid. One can better appreciate the value of this invention to ophthalmology by trying to imagine the impetus that would be given to the study of chest diseases by the discovery of some means of temporarily rendering the tissues transparent so that the condition of the heart valves and of

the pulmonary tissue should be as easily appreciated by the eye as is the state of the skin covering the thorax.

The identity of the blind-spot of Mariotte and the optic nerve entrance was shown by Listing (1852) and Donders (1852) and the knowledge thus far gained was systematized and set forth in fitting shape in Helmholtz's *Handbuch der Phys. Optik*, 1867, which is, and always will be classical. Binocular vision was studied by Müller.

Investigation of color-blindness, advanced by Young (1807), but which had long been forgotten, was taken up by Helmholtz (1867), Donders (1871), Favre (1873), Holmgren (1877), H. Cohn (1878), and Jeffries (1878). The point of especial interest brought out by the later investigators is that the defect is such a common one. Formerly considered so rare as to be a curiosity and of little practical importance, it is now conceded that among men it exists in four per cent. in such a degree as to incapacitate them for occupations necessitating discrimination of colors, and to Dr. Jeffries, of Boston, is due the lasting gratitude of those who travel by land or sea for his unwearied efforts in compelling the appreciation of this fact by the authorities and securing appropriate legislation for enforcing its lesson. In 1853 Helmholtz added to the list of our instruments of precision the ophthalmometer by which the measurements of the corneal curves could be ascertained with unfailing accuracy, and in 1856, Prof. Graefe, of Berlin, announced that in iridectomy, we had the most reliable means for the cure of acute glaucoma, a statement that has held good for nearly forty years. It is, of course impossible to collate private statistics of the results of this operation, but figures from hospital records alone show that those rescued from certain blindness by it, count by thousands. Since Graefe's time, incision of the sclera (sclerotomy) has been urgently advocated by Dr. Wecker, as a substitute for iridectomy, but has been found to have a very restricted application. Eserine in these cases has been shown to have a restraining influence upon the disease, but unfortunately, often only a temporary action.

Operation by section of the tendon of the contracted muscle to cure *strabismus* or squint seems to have been suggested

by Stromeyer (Hanover) in 1838, but was first done as a systematic operation by Dieffenbach in 1839. The semi-quack Taylor, is said to have done it early in the eighteenth century, but of his methods we know nothing, nor of his results. It soon became a favorite operation and was so indiscriminately applied, that a reaction set in, by reason of the unfortunate results following its use in improper cases, or the division of the muscle too far back, thus limiting its function. Donders' establishment of the important role of hypermetropia as a cause of the displacement (1860) leading to the use of convex lenses as an after-treatment, to prevent relapse, did more than anything else towards restoring the operation to deserved favor, and the technique of operations upon the ocular muscles has been so fully elaborated that the surgeon of to-day is nearly as certain of accomplishing his object when he attempts to rectify strabismus as when he removes a wart from the eyelid.

Diseases of the *lacrymal sac*, were not considered as calling for surgical treatment unless they had reached the stage of abscess, when Petit (late in the seventeenth century) treated them by incision through the skin and passed sounds through the stricture of the duct that was the cause of the disease, thus making the great advance of recognizing the source of the trouble. This continued in the main to be the principal method of treatment till 1851, when Bowman proposed treating the stricture before it had produced abscess, by way of the natural passages, dilating, or if need be, incising the canaliculus and Dupuytren introduced the use of gold tubes to be permanently worn to keep the duct open, but they are in very limited use and Bowman's dilation method still has the preference, combined in appropriate cases with incision of the stricture as advocated by Stilling.

An historic résumé of this kind would be incomplete without a sketch of the history of the operation, which is the greatest triumph of surgery, viz; the removal of the crystalline lens, leaving the eye in a condition to perform its functions as before,—the operation for *cataract*. We have already noted the crude theories of the Egyptians and their barbarous, senseless, operation of periscythismus, and have seen that the oculists of the Indies recognizing that something was in the way

of sight, boldly introduced a flat probe and pushed that something out of the way. In 1707, it was definitely established that the obstruction was in the lens itself, but it was not till towards the end of the century that the ancient operation of Galen's time, was revived, that of stirring up the lens substance by a needle and allowing it to dissolve (discission). At first from a fear of letting out the aqueous humor, the needle was introduced through the sclera and the lens capsule opened from the rear; but in 1797, Conradi, operated as is now done, through the cornea, and was followed by Wm. Buchborn, 1806. In 1810, Walther announced cataract to be the result of disease and degeneration of the lens and capsule and often as a simple senile degeneration.

Until the middle of the eighteenth century, discission for soft cataract, and for hard ones depression, reclination, or couching—meaning the pushing of the lens out of the axis of vision, by a needle passed through the sclerotic—were the sole methods of methodical cataract operation. St. Ives, 1707 and Petit, 1708, had published extraction of lenses dislocated into the anterior chamber through an incision in the cornea. In 1745, Henry Daviel had a similar case and seems to have been inspired by his success to extract in the same way lenses that were cataractous but not dislocated. This method spread like wild-fire. He made it unnecessarily complicated, using scissors, knives, needles, a spatula, and a spoon, which he slipped under the lens in removing it. Beer simplified this by using a knife which completed the incision at a single thrust.

In 1819, Prof. Gibson of Baltimore (*N. E. Journ. of Med.*) published a case of removal of the lens by a seton, a silk thread having been passed through the sclera and lens and out through the sclera. The lens disappeared in ten days. This method has not been used to my knowledge by any one else. (In 1844, Lerche tried electrolysis, carrying a needle into the lens, but without noteworthy success.) The Daviel operation using Beer's knife, and known as the simple flap operation, held its own till Graefe's time. Suppuration of the flap was the main source of failure. To return to the method of couching was not to be thought of, for it had been found that the dislocated lens invariably acted as an irritant and set up a

chronic inflammation that destroyed vision sooner or later. Von Graefe's genius was equal to the occasion and he devised an incision in the sclera yet in front of the iris through which the lens might be removed if a sector of the iris were first pulled out and cut off. With this operation, suppuration of the edges of the wound was practically unknown and for twenty-five years this operation, with slight modifications was the method chosen by fully ninety per cent. of all ophthalmic surgeons. The introduction of cocaine, eserine and antisepsis has so changed the situation that we find we can now return nearly to the original flap operation and omit the iridectomy without exposing the eye to the former risk of suppuration of the flap, and this is consequently an operation that is gradually gaining in favor. We have reached what may be termed the ideal operation in this department, leaving the eye unutilated, keeping the patient confined to bed, only three or four days and obtaining useful sight in fully ninety per cent. of all cases.

English ophthalmologists of this time (1800, 1850), were McKenzie (Glasgow), Wm. Lawrence, Benj. Travers, Tyrrell Bowman (London); A. Jacob, R. Wilde (Dublin); R. Middlemore (Birmingham) and Walker (Manchester).

In France the general surgeons were the ophthalmic surgeons also, such as Delpech, Duputren, Roux, Lisfranc, and Velpeau. Says a writer of that period, "It is wonderful that so important a branch of science as ophthalmology should be so entirely neglected in a land that in the beginning of the previous century, did more than any other nation in it. In 1832, Sichel Delarue and St. Hilaire are noteworthy names.

In America, George Fick, eye surgeon to the Baltimore General Dispensary, wrote (1823) a "Treatise on Diseases of the Eye," and Isaac Hayes in Philadelphia was surgeon to the Pennsylvania Infirmary for Eye and Ear Diseases.

The German contributors of this epoch to ophthalmic science are too numerous to mention here, and many have been already alluded to; but a trio stands forth to whom no historian can consistently fail to call attention. In no other department of medicine can a like group be found, contemporaneously, putting their mighty intellects and skillful hands to

the task and lifting ophthalmology out of the gloom of speculation into the sunlight of assured knowledge; out of uncertainty of vague theories into the region of mathematical demonstration; out of the unsystematic and lawless condition of the first quarter of the century, into the vantage ground of the beginning of the second half, from which it has advanced with regular step, but never since that time with such gigantic bound. This trio was Albrecht Von Graefe, Heinrich Helmholtz, and F. C. Donders: Graefe, the founder of modern ophthalmology, who during his brief forty-two years impressed himself upon his chosen science as no other man has ever done in the same time, and to whom modern ophthalmologists reverently refer as the "Master;" Helmholtz, who, though not an ophthalmologist, yet understood the needs of those who were, and by aid of his rare powers of observation and reasoning compelled the ophthalmoscope, which was no accidental discovery, like that of the law of gravitation; and lastly, Donders, who first fairly realized that the eye, as an optical instrument, had a right to demand exhaustive examination from a mathematical standpoint, and in his classical work on refraction, established the frequency of the effects of optical errors.

Two of this trio have joined the silent majority. Helmholtz still lives and has but lately been honored by a memorial from ophthalmologists all over the world. Never can we expect to see such an epoch-making era again. To be revolutionized within twenty years happens not twice in the life-time of a science. Pausing at this point to survey the status of ophthalmology, we may well exclaim with Helmholtz, (1868) "As once astronomy was the pattern from which the other sciences learned how the right method will lead to success, so does ophthalmic medicine now display how much may be accomplished in the treatment of disease by extended application of well-understood methods of investigation and accurate insight into the casual connection of phenomena."

We come now to the progress of the last *twenty-five* years. In almost all operative procedures and many therapeutical measures, useful modifications have been made, which do not come within the province of this paper to chronicle. It may

be said, however, that the chief distinguishing characteristic of this period has been the increased attention given to abnormal conditions of refraction. Myopia, hypermetropia, and more recently astigmatism have not only been shown to be far more common, than was formerly supposed, but their reflex action upon the nervous system and through this upon other organs has been demonstrated beyond question. Hypermetropia, first mentioned by Janin (1776), and revived by Wells (1811), was called atrophy of retina, asthenopia and fatigue of muscles. This view led Bonnet (1841) to propose and Adams to practice section of the recti muscles, which was published under name of "a new cure by operation for muscular amaurosis." Myopia which in 1751, was shown by Boerhaave to be characterized by an elongation of the globe, has been proven to owe its existence in many cases to faulty but remediable conditions of eye-work. Its progressive tendency in school-children has been noted and the community has been pretty thoroughly aroused to the necessity of periodical examinations of childrens' eyes, and of constant watchfulness of the conditions under which eye-work is done, in order to limit so much as possible the advance of this condition to disabling degree and nerve disease.

Astigmatism, first noted by Thomas Young, by observations on his own vision, and studied by Fischer in 1819, by Brewster and Hamilton later, seems to have received little practical attention till about 1850. Probably interest in it was revived by the systematic investigation of the acuity of vision, initiated by Küchler in 1843, who was the first to use a definite test-card with graduated letters. The introduction of various and ingenious methods of detecting it has led to the establishment of the fact that it is far more common than was supposed a few years ago, and the discovery that a moderate degree of it may give rise to reflex symptoms of a serious character, may perhaps be classed as one of the most important elements of progress during the period under discussion. With Javal's ophthalmometer to detect Astigmatism and the cylindric glass to correct it, the modern ophthalmologist occupies a distinct vantage-ground over his brother of the preceding generation.

The reflex influences of these abnormalities of refraction were noted by neurologists at an early date. Anstie, in 1871,

writes of "Functional abuse of the eye as one of the most powerful sources of peripheral irritation tending to produce neuralgia," and Weir Mitchell, ("Fat and Blood and how to make them,") called attention to asthenopia in connection with neurasthenia and says that slight optical errors are mischief-makers when the brain is sensitized by disease. I would emphasize these quotations, which might be multiplied many times from neurological authorities, because of the widespread opinion that ophthalmologists often prescribe glasses for patients without sufficient reason. In this connection, it is interesting to note that spectacles were used by the monks of the sixteenth century against the opposition of the oculists. Bartisch (1583), says: "It is better to have two eyes than four, and if any one has become used to glasses and will be rid of them, let him purge and then use my confection for weak eyes." (Quot. by Spalding, Trans. Maine Med. Soc.) Florentin Salvino, about 1300, invented spectacles to use in myopia and presbyopia. The remedying of disabilities arising from *muscular asthenopia* belongs entirely to the latter half of the present century. Asthenopia from overstrain of the ciliary muscle by hypermetropia or from its irritation by astigmatism has been most successfully met, as already said, by the use of spherical or cylindric glasses. But in the other variety, viz.: The asthenopia from insufficient power (either absolute or relative) of any of the *extrinsic* muscles, treatment has not met with the same proportion of success. Much of it has been successful, some even brilliantly so; but we have not reached the point where we can prescribe prisms or tenotomize muscles where these insufficiencies exist, with the same confidence of success with which we prescribe convex and cylindric lenses in appropriate cases. This field is being investigated by many careful observers as well as by headlong enthusiasts, and the prospects are that the end of the next twenty-five years will see us furnished with much more correct indications than we now have for tenotomy, to relieve headaches or some other neuroses, though we hardly dare hope with the aforesaid enthusiasts, that we can sufficiently use it against malaria, dyspepsia, dysmenorrhea and chronic constipation.

I have reserved till the last that which instinctively rises to the mind of one who would enumerate recent advances in this department, viz.: The use of cocaine as a local anesthetic. Although the blessings of this agent are not limited to its use in the eye, yet we may claim a sort of special right to it, since cocaine anesthesia was discovered by an ophthalmologist, first practically tested in the eye, and first publicly exhibited to the Heidelberg Ophthalmological Society. I may add that it is probably more indispensable to ophthalmologists than to any other class of specialists. Dr. Koller, with whom I have the privilege of a personal acquaintance, has kindly written me the main facts of his connection with this discovery and I make the following extracts: "I am glad to have the opportunity of telling the story, as it has not been correctly represented. Especially do I wish to show that the so-called discovery was not a mere accident. At the time, I was actively interested in physiological researches of various kinds and had been trying to find a local anesthetic, but had temporarily abandoned the search. In this way my mind was prepared to seize upon a local anesthetic as soon as I found one. In the summer of 1884, my attention was called to the effects of the internal use of cocaine, in experiments with reference to its use in the morphine habit. I was anxious to prove on myself the alleged stimulating effects on the nervous system, and took a small quantity of the powder. I could not fail to perceive that it made the tongue numb, and also remembered that I had known the fact from my former studies; a fact known in 1859 to those who first extracted the alkaloid from the leaves. From my observations I concluded that cocaine paralyzed the peripheral ends of the sensitive nerves and that doing it on the tongue, it would do it in any other place where it could reach them and hence could be used as a local anesthetic. Being then especially interested in eye-diseases and knowing that a local anesthetic was mostly needed in ophthalmology, I conducted my experiments in this direction, first in guinea-pigs, rabbits and dogs, and lastly in myself and friends, and communicated my experiments to the German Ophthalmological Society at their meeting in Heidelberg, Sept. 15, 1884, when it was tried in open meeting and my observations verified."

It is not fitting that I should take your time to eulogize a drug with whose merits you are all more or less familiar, but I may be allowed to say that it has well-nigh revolutionized ophthalmic surgery. The removal of foreign bodies from the cornea, formerly most difficult to perform, has become comparatively simple; operations upon the external muscles of the eyeball are far simpler under local than under general anesthesia, while in the grand operation of all, the removal of the lens, it is generally admitted that cocaine has been the leading factor in the introduction of the new and vastly improved methods of operating.

Another brilliant discovery, though as yet of no practical advantage, is that of Professors Boll and Kühne, who in 1876 discovered a secretion from the choroidal epithelium which is called visual purple. It is a photo-chemical substance, sensitive to light, increased in quantity by keeping the eye in the dark. Light changes it to a yellow color. Its function is not yet clearly made out, but it is probable that in its yellow state it may defend the retina from injury by too strong light. Its discovery completes the analogy of the eye to a photographic camera, by supplying the photo chemical plate and the demonstration has been made complete by exposing a rabbit's eye to the light of a window and then by the ordinary chemical processes developing and fixing the resulting picture of the window-frame upon the retina.

In summarizing the progress of the century, we may say that for the first fifty years the advance was slow, though steady. The establishing of eye hospitals and courses of lectures on ophthalmology, and the publication of systematic treatises on eye-diseases showed that the spirit of improvement was awakened, though not very much material progress was made in the treatment of disease. The next twenty-five years was, as already said, a period of intense activity—discovery following discovery in almost bewildering confusion. The last twenty-five years has shown quite as much activity, perhaps, but so distributed throughout the scientific world, and so much directed towards modifications of recognized procedures or investigation of profound pathological problems, that it fails to make the impression of its predecessor.

Excepting cocaine and the visual purple, we have no brilliant discovery to point to, though we might enumerate many improvements in therapeutics and surgery that have substantially advanced our mastery over disease. The use of eserine, pilocarpine and jequirity; improved methods of treating granular lids; the more methodical, systematic and accurate prescribing of lenses and prisms, and a substantial advance in formulating the indications for operations upon the external muscles of the eye to relieve eye strain, may all be claimed for our own age.

But to return for a moment to the progress of the entire century. It is a favorite device of authors who would impress upon their readers the advances made in a given period, to ask them to imagine the former inhabitant permitted for a brief space to revisit his abode so that they may witness his astonishment and wonder as he notes the improvements. The citizen of 1792 would be bewildered by the marvels and magic with which steam and electricity would encompass him, but scarcely less so would be our good friend, St. Ives, of the eighteenth century, could he look over the shoulder of the eye-surgeon of to-day and note how the patient's pupil could be contracted to a pin's point or expanded *ad maximum*, at will; how the action of the ciliary muscle was suspended or stimulated as might be desired; how the curves of the cornea and the depth of the eyeball could be measured to the minutest fraction of an inch; how local anesthesia could be produced within a few minutes, so that the patient might be an intelligent assistant at an operation which gave him no pain; how the half-blind ametropes and the asthenopic hypermetropes rejoiced over his correcting glasses, and chiefest of all, what would be his feelings as the light from the ophthalmoscope illuminated that retina which he had never before seen in a live animal.

OPACITIES OF THE CORNEA.

BY CHARLES S. RODMAN, M.D., WATERBURY.

How rarely do those who possess normal visual power consider what deprivation of sight results from impairment, either of the transparency of the cornea, or of the symmetry of its curvature. We remove the delicate tracery of winter's frost or the moisture condensed upon the window; perhaps we have directed our breath for a moment upon a piece of glass and endeavored to look through it. Let the glass be covered with a card perforated with an aperture no larger than the pupil of the eye, and we more fully realize the visual requirement of a clear medium.

Opacity of the cornea is the ultimate result of inflammation, ulceration and abscess, whether caused by disease, such as trachoma and that which in childhood is characterized by repeated crops of phlyctenulæ or herpetic vesicles, or by traumatism, of which burns and cauterization with lime are examples. The inflamed corneal tissue is infiltrated with serum, lymph and leucocytes; there is exudation and segmentation of cells for which the vascularization may be insufficient to bring out complete absorption during the process of healing. The restoration is therefore not of transparent, but of cicatricial connective tissue. If only superficial corneal layers have been involved, the eye may be faintly frosted, in appearance like a window subjected for a moment to the action of the sand-blast. The lack of transparency in both is owing to the multiplied surfaces which reflect the light irregularly. The visual impairment of corneal opacity depends upon three separate factors: First, the exclusion of light, proportionate to size, density and location: Second, the dispersion, due to the irregularly refracting surface which blurs the retinal image. Hence, a semi-transparent opacity or macula may seriously

reduce acuity of sight: Third, upon the commonly coexisting alteration in the curvature of the cornea producing irregular astigmatism. Cicatricial contraction may change the corneal curvature although the opacity finally left may be nebulous, a nebercula, as it is called, perhaps so faint as to be recognizable only by delicate modes of examination.

The diagnosis of leukoma, a white patch upon the cornea—dense and opaque, is of course made at a glance. Lesser opacities are revealed by the incident light of the ophthalmoscope, appearing as gray spots upon the red fundus. More sensitive is the method of focal illumination in the dark room. With a lens of two or three inches focus held at its focal distance from the eye, the light of an Argand burner is thrown obliquely upon and around the suspected surface. Asymmetry of corneal curvature is shown by the distorted reflection of the bars of a window facing the patient, better in the image seen reflected upon the cornea, of a figure composed of concentric rings, black and white like a target and called Placido's disc, and best of all by the ophthalmometer, as that of Javal and Schiotz. Patients with opacities and poor vision appear myopic; generally they are so and it is easy to believe that the necessity of approximating to the object seen, leads to myopia. Opacities are called leukomata, maculæ and nuberculæ, terms already sufficiently defined and involving distinctions chiefly of value for purposes of description. Of an opacity, we say partial or total, as it covers a portion or nearly all of the cornea; that it is central or peripheral, etc. Between simple leukoma and leukoma adherens there is an important difference, the latter being the opacity or scar remaining after an ulcer perforating the cornea, to which, in healing, the iris became attached and is adherent. Vascularized opacity is not fixed or permanent. So long at least as it is interspersed with fine blood-vessels, absorption continues. The younger the subject, the smaller and fainter the cloud, the better the chance of its disappearance. An opaque leukoma is frequently entirely absorbed in infancy.

Having briefly indicated the frequency and importance of corneal opacities, we have to consider the treatment. What can be done to promote absorption? If this is impossible

what can be done to improve the condition of the patient? The first indication is to prevent renewed attacks of inflammation, to cure coexisting and causative affections, such as trachoma and the tendency to phlyctenular conjunctivitis. Absorption is possible, as a rule, in youthful subjects and recent cases. Our endeavor then is to increase vascularity without renewal of inflammation. Slight hyperemia is excited by the daily or more frequent introduction into the conjunctival sac of calomel or a weak ointment of the yellow oxide of mercury in connection with a gentle massage with the finger upon the closed lid, perhaps rubbing for a minute in directions radiating from the center of the cornea. The list of irritants so used is long; none have specific value in "cutting the film," to quote the vernacular. All have the same object, viz: increase of vascular activity, and gradual improvement may warrant their use for many months.

For the relief of those blind, or nearly so, from permanent opacities dense and central, very ingenious and interesting procedures have been devised. The opaque tissue of the pupil has been excised and replaced with glass shaped like a collar-button or an eyelet, *i. e.*, having flanges to retain it, with the cornea of the rabbit and of other animals, and with that of the human eye freshly nucleated. It is needless to say that the glass fell out and unfortunately true that in cases of transplantation or keratoplasty, the new cornea, if becoming adherent, has soon become opaque, and that atrophy of the globe has frequently followed the operation.

The Annual of Medical Sciences for 1889 contains an illustration of Von Hippel's trephine for the cornea with a résumé of his method of operating. It will be seen that the entire thickness of the cornea is not excised, but a disc about one sixth of an inch in diameter, leaving intact the membrane of Descemet or posterior elastic lamina. The same Journal for 1890 quotes Baker's review of the literature of keratoplasty, as showing that in cases hitherto reported as successful, the graft soon afterwards became opaque, and also his suggestion that more promising field for experiment is to be found in scraping of the opacity, in galvanism, etc. Scraping has long been practiced in cases of calcareous degeneration and to re-

move deposits of lead. Curetting in trachomatous pannus has of late been extolled, especially by Gruening. I do not know that it has been found advantageous in non-vascularized opacity.

To be considered in cases in which removal of the opacity is impossible by any means yet known, there are two operations which may sometimes greatly improve the condition of the patient. Tattooing was introduced by De Wecker. The leukoma is made insensitive with cocaine, then covered with a paste of Chinese ink of fine quality and this is obliquely pricked in between the layers of the cornea either with an instrument composed of four or five needles arranged like the teeth of a comb, or with a single grooved needle. This can be done without fixation-forceps, which if used should be without sharp claws which may wound the conjunctiva and unpleasantly extend the tattooing. In leukoma adherens, great care must be exercised not to wound the iris with the needle and it is advisable to make at first but few punctures to test the tolerance of the eye or the liability of exciting an iritis. Vacher has employed various other pigments besides India ink to imitate the natural appearance of the iris. A large central leukoma is in every sense unsightly and tattooing is usually done for cosmetic effect, nevertheless if the opacity is not total the operation may improve vision by diminishing the amount of diffused light that enters the eye.

Independently of or in connection with tattooing, applicable where the pupil but not the entire cornea is covered by leukoma, in cases therefore in which instillation of atropine improves vision, a portion of the iris corresponding to the clear cornea may be excised, thus forming an artificial pupil. This was first done by Beer in 1798; for a knowledge of its value as a therapeutic measure in glaucoma we are indebted to Graefe. Briefly described, the technique when done for optical purpose is as follows:

Having sterilized with boiling water a stop speculum, conjunctival fixation-forceps, a small keratome (bent triangular knife), curved iris-forceps and scissors, the eye is irrigated with a weak solution of bi-chloride of mercury (one to five thousand) and a drop or two of four per cent. solution of

cocaine twice instilled with a moment's interval. The speculum is then introduced and the conjunctiva and subconjunctival tissues grasped with the forceps near the sclero corneal union and diametrically opposite to the intended incision. At a point usually in the transparent rim of the cornea, the keratome is passed perpendicularly until it enters the anterior chamber. Before the iris is reached the handle of the instrument is depressed and the blade pushed forward horizontally or nearly parallel with the posterior surface of the cornea until the incision is of sufficient size. To prevent escape of aqueous and prolapse of the iris, this incision must be made somewhat rapidly and without hesitation. The keratome is withdrawn more deliberately, keeping its point close to the posterior surface of the cornea to avoid wounding the lens, with which, it will be remembered, the iris is in contact at its pupillary margin. The operator now passes the iris-forceps between the lips of the corneal wound, seizes the iris near its pupillary margin, gently draws it out and with the scissors snips off the requisite portion. There is usually no hemorrhage if the iridectomy does not extend quite to the periphery of the iris, of which no replacement may be required other than by gentle friction over the closed lid. After the speculum has been removed the eye is again washed with antiseptic solution, a little cotton padding and a bandage applied for two or three days, and the patient kept in a slightly darkened room for a week or until free from conjunctival irritation.

An artificial pupil is not a good one, but may be of incalculable benefit to a patient otherwise blind or nearly so. Ability to see large objects, to go about alone, is greatly preferable to dependence upon an attendant or a dog as a guide. The margin is apt to be more or less irregular; the cornea is often hazy, sometimes more so after the operation; the light is not focussed at the macula lutea but at a distance from it corresponding to the peripheral extent of the iridectomy and furthermore and perhaps above all, during the formation of a central leukoma, cicatricial contraction has altered the curvature of the cornea, giving rise to an irregular astigmatism which of itself greatly reduces visual acuity, even where the

optical conditions are otherwise perfect. With the ophthalmometer of Javal and Schiotz, I have during the past year examined a considerable number of persons having poor vision and corneal opacities. In many of these the opacities were only maculæ and not in direct line of vision, yet there was an easily recognized irregular curvature of the cornea. The clearest and most symmetrical portion of the cornea is to be taken for an optical iridectomy, but if one can choose, downward and inward is best; downward because uncovered by the upper lid and inward because most nearly in the line of the visual axis in reading.

With the indulgence of the Society I extract from my record-book the history of a case of central leukoma of the cornea in which I have recently made an optical iridectomy, after which the patient is at the disposal of any members who may be interested in examining him. W. T. W., twenty-one, Irish, has had trachoma for the past eight years. During the first three he was treated at various times at Ophthalmic Hospitals in Belfast and elsewhere in Ireland. Before coming to America in 1887, he had trachomatous pannus leaving the cornea of the right eye hazy and also iritis in the same eye, leaving the iris adherent to the lens at the pupillary margin, *i. e.*, with occlusion of the pupil. During 1890 he had pannus and corneal ulceration of the left eye. Four successive attacks or exacerbations at intervals of three months, resulted in dense central leukoma. February 21, 1891, he first came to my clinic. At this time, in addition to the usual appearance of old trachomatous cases, he presented the lesions already enumerated. The leukoma left visible only the inner and lower edge of the pupil; vision $\frac{1}{200}$, improved by atropine, not improved by glasses. Patient anemic, ill nourished, no history of specific disease. He was kept under daily treatment for trachoma for six months. Cornea of the right eye became less hazy, with visual improvement. No further corneal inflammation and no absorption of leukoma in left eye. On September 6, 1891, assisted by Dr. C. E. Munger, I made an iridectomy downward and inward, removing a portion of iris one eighth of an inch wide and one eighth of an inch deep, from the pupillary border, not extending quite

to the periphery and rounded outward somewhat like an inverted capital D. He made no complaint of pain during the operation, which was done under the influence of cocaine, no inflammation ensued and no atropine was instilled. The bandaging was omitted upon the third day, at which time only by the oblique illumination could the line of the corneal incision be easily seen. The vision of the eye has improved so that he can count fingers at eight or ten feet; he is less and less annoyed by the inevitable dazzling and finds the eye more serviceable than the right in going about. He is now anxious to follow the iridectomy with a tattooing of the leukoma. This I have preferred to defer for a short time, although of opinion that no unfavorable reaction will be excited.

Opacities of the cornea are occasionally congenital, arising from inflammation in utero. Within the past week, through the kindness of Dr. E. C. French, of Watertown, I have examined a child two months of age with nearly total macula of the right cornea, in which no inflammatory symptoms have existed since birth. Dr. French writes that he can positively confirm the statement of the parents, viz, that there has been since birth no cause, sign or symptom of any inflammation whatever. Furthermore, he saw the child frequently and it was only a few days old when the opacity was noticed. In this case the macula did not prevent a fairly satisfactory ophthalmoscopic examination with the probable exclusion of other lesions, and therefore a favorable prognosis was given.

In recapitulation, I will endeavor to concisely indicate the present status of ophthalmic practice as regards the prognosis and treatment of opacities of the cornea.

Absorption continues so long as vascularity is manifest and sometimes afterwards; this can be directly promoted only by irritants which excite hyperemia; early in life even dense leucomata may be entirely absorbed.

Corneal transplantation has been successfully accomplished, but the graft has subsequently become opaque. Unsuccessful cases are not always reported.

Optical iridectomy may be of great value where vision of both eyes is poor, provided that any portion of cornea is clear.

Tattooing serves a cosmetic purpose as in leukoma of one eye, the other being good; it may also improve the optical result of an iridectomy.

The cicatricial reparative process after ulceration of the cornea commonly occasions alteration in curvature as well as opacity. Impairment of vision depends therefore upon irregular astigmatism as well as upon exclusion and diffusion of light. Changes in the corneal curvature are demonstrable by the ophthalmometer; not by the overlapping of the steps as in regular astigmatism, but by distortion of the concentric bands. This instrument is, therefore, useful in selecting the portion of the cornea of most regular curve, as well as the clearest, and that, therefore, which in both of these respects is most available for an optical iridectomy.

[NOTE.—Read before the New Haven County Medical Association, September, 1891. In the case of optical iridectomy herein reported, tattooing of the leukoma was done soon afterwards. At this time (May, 1892) the man has sufficient vision to support himself by his labor in one of the manufactories of Waterbury.]

THE SURGICAL TREATMENT OF GRANULAR LIDS.

BY HENRY W. RING, A.M., M.D., NEW HAVEN.

Until within very recent years trachoma has been the "black beast" to the eye-doctor and when one has seen numerous hospital patients seeking treatment for granular lids and attending evils for weeks, months and years, without permanent benefit, it is with sensations of relief and gratitude that one now hails the dawn of a better day.

There is yet much to know and the victory is not yet complete, but the persistent and united labors of the great army of ophthalmologists throughout the world for the more successful treatment of this particular disease, have of late been fruitful in results and to-day there are numerous successful methods of treatment suitable to all stages and conditions of the disease. We still resort to many old standard remedies, especially for the milder forms, and it is here where the advance has been less rapid and the cures still slow, but the mechanical or surgical treatment of granular lids has shown the most successful results.

The ideal cure is absorption of the morbid material, leaving a smooth, healthy conjunctiva without atrophy.

In private practice the majority of cases come under our care before this has taken place, but in hospital practice indifference and neglect allow the disease to advance to a later stage, which causes more acute symptoms before advice is sought.

The essential characteristic of granulated lids or trachoma is hypertrophy of the conjunctiva and there may not necessarily be ordinary symptoms of inflammations. "Granular" refers to the occurrence in the membrane of distinct granules of various sizes. "Granulation of the lids" is an improper expression, as there is no reference to granulations as applied

to the healing of wounds. Trachomatous granules are lymph follicles, traversed by a reticulum of connective tissue fibres and blood-vessels and they are imbedded in the adenoid tissue of the conjunctiva. In granular conjunctivitis we have "papillary outgrowths and irregularities, hypertrophy and degeneration of epithelium, accumulation of lymphoid cells in granular masses and in diffused infiltration, undue development of connective-tissue and of blood-vessels and more or less serous infiltration." The trachoma microbe has been demonstrated.

Papillary trachoma is seen in many cases of acute conjunctivitis, there being hypertrophy of the papillæ and epithelium, but very few trachoma follicles are present.

This form is very common and frequently accompanies "pink eye". Moderate treatment will be indicated and may need changing. Among the more common remedies are saturated solution of boracic acid or the powder dusted onto the everted lid, alum, or in obstinate cases, copper crystal, touched to the lids, solutions of tannin and glycerine of various strengths (gr. I.—L. ad f̄zi) or nitrate of silver (gr. v. f̄zi).

In acute trachoma there is great swelling of the lids and hypertrophy of the conjunctiva, watery discharge, injection of ocular conjunctiva and pain. During the acute stage the trachoma granules and papillary hypertrophy are not noticeable, but will be seen after two or three weeks. This form does not often lead to cicatricial degeneration.

The treatment most successful will be iced cloths and cocaine until the swelling largely subsides, and later nitrate of silver, tannin and glycerine, copper crystal and proper attention to nasal catarrh, which is likely to accompany this form.

Follicular trachoma where there is conspicuous infiltration of the lymph cells is the form which is amenable to surgical treatment.

In the milder form, if the lid be everted there are found a few or many little bodies lying beneath the conjunctiva, the intervening conjunctiva showing but little inflammatory irritation.

If the daily application of tannin and glycerine or alum

does not soon have a favorable effect, each granule should be picked out with a needle, or squeezed out by forceps, or punctured with a red-hot needle or platinum cautery, care being taken to avoid contact with healthy conjunctiva. Cold applications will tend to subdue the resulting moderate reaction. This line of treatment is indicated in cases of moderate severity and where the enlarged follicles are scattered, but when there are gelatinous granular masses, surgical or mechanical interference will produce, in the majority of instances, absolute cures in a surprisingly short time, and we will now consider some of the most prominent and successful measures for relief, and it will require some experience and judgment to determine what method will be best adapted to individual cases.

One of the main objects of the surgical methods is to get rid of the follicles quickly and in this respect the more popular procedures of to-day are most successful.

Each follicle may be opened with a cataract needle or scissors. This should require several sittings and is tedious and unduly prolonged.

Some oculists go further and excise the entire trachomatous retrotarsal fold. A permanent interference with the motility of the globe is likely to result and therefore this method is objectionable.

The trachomatous conjunctiva has been cut out and replaced by mucous membrane from the lip, but few would venture to adopt such means.

Fadda has passed several times over the conjunctiva a fine-toothed metallic plate and the galvano cautery has been used and one of the most efficacious methods has been adopted by G. Lindsay Johnson, of London. His operation is applicable to chronic trachoma of the follicular variety before the stage of atrophy has commenced and it is thorough from the fact that it not only destroys the diseased follicles but penetrates to the deeper parts of the lids whence the trouble originates. If it has not been extensively copied it is largely because special apparatus and great care is required and more simple methods have been successful. He everts the upper lid over the end of a vulcanite spatula and keeps the conjunctiva

tightly stretched over it by means of a double hook. Then with a three-bladed scalpel with movable guard he makes incisions through the conjunctiva parallel to the edge of the lids. Through the grooves thus made, after checking the hemorrhage, he passes a platinum electrolyser which has been attached to the wires of a battery. The lower lid is similarly treated and subsequent reaction controlled by cold compresses and antiseptic washes.

The author claims to have had no ill effects from cicatricial contraction following the operation, and he reports comparatively speedy cures, by following up this rather radical method with proper medication. The scarification method, used many years ago, has been revived of late under the name of "Grattage," and is combined with a vigorous scrubbing of the scarified surface with a solution of sublimate one to five hundred.

As in the preceding operation etherization is essential as cocaine cannot control the pain.

If the palpebral fissure is narrow and the lids are pressing firmly against the eyeball, canthotomy or cantholysis should precede this or any other similar operation for trachoma.

The lid is first everted and held back by a pair of dressing forceps, the blades running along the edge of the lids and the forceps turned on their own axis, thus exposing to view all parts of the conjunctiva. Then with a scalpel or two or three-bladed scarificator, the trachomatous surface is scarified by many incisions close together and parallel to the lid margin. Further incisions are made at right angles, and the bleeding surface scrubbed with a stiff tooth-brush dipped in the sublimate solution. All the parts are thus treated, including the lower lids, if necessary. The eyes are then bandaged, a piece of sublimate gauze being laid over the lids first. The bandage is removed on the following day.

The subsequent treatment consists in removing all discharge with cotton dipped in the one to five hundred sublimate wash. After three or four weeks, if the discharge continues, nitrate of silver (five grains to the ounce) is used and the patient usually requires no further treatment after six or eight weeks.

The amount of reaction varies, but is likely to be consider-

able. There will be swelling of the lids and often subcutaneous ecchymosis, which iced cloths will subdue. The granular appearance subsides gradually. In case of severe pannus the loop of vessels may be divided just beyond the corneal margin.

The "Grattage" treatment has been tried more or less extensively in Paris at Dr. Abadie's clinic and during the past year in New York, by Dr. Gruening and others.

Sufficient time has not elapsed to judge of the permanent results, but the treatment is quite violent and reaction considerable and Dr. Gruening, who was an advocate of this method, is now reported to have discontinued it. If the trachomatous tissue is not completely eviscerated and left behind, will again spread itself over the under surface of the eyelids.

The remaining surgical procedure is the "squeezing" process, and seems applicable to any case where there is lymphoid infiltration.

Dr. Hotz pressed out the granulations of the upper lid with his finger nails, those of the lower lid with the curved branches of a pair of toothless forceps. Dr. Prince adopted ring forceps. Dr. Noyes has invented and used with marked success a pair of forceps, the handles of which end in two grooved plates at right angles to the branches. Few patients can endure the use of these instruments without etherization.

The lid is everted and one end of the tarsus is held with one forceps while the other is applied to the granular surface and pulled against the first, thus squeezing and stripping out the granules. By this means every part of the diseased tissue of the upper and lower lids may be thoroughly reached and treated, at one sitting. The reaction will subside in a few days by the usual treatment and the conjunctiva shortly assume its smooth, normal aspect. Some apply sulphate of copper to the raw surface immediately after the operation, but the use of sublimate solution, one to five thousand, and subsequent applications of nitrate of silver or tannin and glycerine or even milder astringent has, in my observation and experience, accomplished apparent cures in from ten days to a month.

Dr. Knapp, thinking the tissue was lacerated more than needed by these and other forceps, devised the roller forceps. The branches terminate in a stirrup shape, a rolling cylinder of steel forming the foot-plate of the stirrup. These forceps are used similarly to the Noyes' forceps, except that the infiltrated parts may, in some cases, be superficially scarified, and traction should be made straight in the direction of the handle, so as not to interfere with the easy turning of the rods. There is less reaction by this method and a mild anti-septic treatment subsequently is all that is needed in the average case.

In the January number of the Archives of Ophthalmology, Dr. Knapp reported results of the treatment of one hundred and fourteen cases by the roller forceps and the percentage of success was very large.

The methods adopted by Drs. Noyes and Knapp are the most successful up to date, and the case is rare indeed that cannot be cured or greatly benefited by the intelligent and careful use of one or both of these forceps.

The most deplorable form of granular lids is that of lymphoid infiltration mingled with inflammatory products, a sort of diffuse trachoma with great thickening of the palpebral conjunctiva, with the inevitable evolvment of the ocular portion and a vascular and opaque cornea which may be so intense as to be called *pannus*. Relapses are frequent and pain, lachrymation and photophobia extreme. Complete recovery is not common unless seen at an early stage.

During the acute inflammation care must be taken not to use any strong applications which might cause excessive reaction. Cold applications and nitrate of silver to check secretion and boric acid are indicated. Atropine is used in all cases where the cornea is involved and smoked glasses will be needed. The vascular conjunctiva may be scarified and the follicles opened.

When the cases become chronic and shrinking appears, sulphate of copper will be useful and corrosive sublimate solution in varying strengths. If ordinary treatment fails jequirity will and has saved many eyes that seemed destined to be blind.

I have used this remedy many times and have never seen an eye made worse, although considered by some a dangerous experiment.

The surgical measures to be tried in these cases are by squeezing, excising or scraping the moderate prominences. Cauterization will produce similar results.

Granular lids of the severe types are rarely seen outside of the immense army of the "great unwashed".

Simple, nutritious diet, a general tonic line of treatment and improved hygienic surroundings are highly essential adjuncts to local treatment.

The contagious nature of the disease should be explained to the patient, family and friends and its extension prevented so far as possible.

DENTAL SURGERY.

ONE HUNDRED YEARS OF DENTAL AND ORAL SURGERY.

BY GEO. L. PARMELE, M.D., D.M.D., HARTFORD.

To trace the development of dentistry from the time of the Egyptians who made specialties of everything, from the Hindoos, who are among the first recorded as having employed artificial dentures, and from the Greeks, down through the musty past, to the days of Peter de la Roch and George Goslin (1648), and on through the times of Paré (1759), Hunter (1740-1793), Fox, Bell, and Naysmith, while intensely fascinating to one of antiquarian tastes, would yield but little of important discovery.

The growth and development of this branch of the healing art which, as it stands to-day, is, and yet is not, a specialty of medicine, has been rapid and in keeping with the progressive spirit of this country. Its early advancement was largely due to a few individuals whose assiduity led them to surpass in their operations the very great number who, as in all other callings, are content to follow afar off.

Prior to 1792—one hundred years ago—I can safely say that there were about ten dentists in America: In 1820 it has been computed that there were a hundred: in 1858 about four thousand, while to-day, Dr. Edward C. Kirk, of Philadelphia, editor of the "Dental Cosmos", informs me that "We can estimate the number of dentists in the United States to be between sixteen and seventeen thousand. This, while not absolutely correct, is as near as we can come to it, and we have reason to believe is very nearly correct". Both

dental science and art are of European birth, but of American growth. It was not until 1700 that it attracted much attention or assumed a distinctive character from other departments of medicine. About this time France began her survey of this hitherto unexplored field, and it became a subject of critical inquiry in England. Elaborate works were published treating exclusively of the subject, and many scientific and ingenious persons engaged in practice; but even at the end of the eighteenth century little progress had been made. It has been said that "dentistry was conceived in France, cradled in England, but that the atmosphere, soil and culture of America were required to mature it". Dr. Oliver Wendell Holmes has said: "Dentistry as a profession may be safely said to have come into existence during the past century. In this country its growth has been of wonderful rapidity. One would have thought Cadmus had sown a new furrow full of teeth and that they had sprung up dentists."

Little is known of the ten operators upon teeth who were in America prior to 1792. Let us briefly consider who and what they were.

With regard to their professional ability, little is known. It is probable that it was limited and that their practice consisted chiefly in carving artificial teeth from blocks of ivory.

About October, 1766, Robert Woofendale arrived in this country from England. He was, for that period, a regularly educated dentist, a student of Thomas Berdmore, dentist to George III. He commenced practice in New York, but later was at Philadelphia, and returned to England March, 1768. He constructed for Mr. William Walton, the first artificial denture recorded as having been made in America.

The patriot Paul Revere, according to an advertisement found in "Quaint and Curious Advertisements, Olden Time Series", page twenty, conducted some parts of a dental practice. The advertisement is dated December 19, 1768.

The same work "Quaint and Curious Advertisements" also has the advertisement of a Mr. Baker, who was a dentist in Boston prior to 1768, and it is stated in Watson's Annals of Philadelphia that he was found in the latter city in 1784,— "the first person ever known as a dentist in Philadelphia".

Jos. Le Mair, (Lemayeur) (Lemaire) was a French dentist, who came with the French army during our struggle for independence. He was not without some pretensions to skill, especially in transplanting teeth. He gave instruction to several in this country. He was at Philadelphia in 1784 with a reputation as an eminent dentist.

There came from England about the same time as Le Mair (1776) one Whitlock, or Whitelock. With regard to him or his abilities little is known. He was spoken of "as a gentleman of polite address and accomplished manners".

The first medically educated dentist in the United States was James Gardette, who was born in 1756, in France. He studied medicine from 1773 to 1775, and was then two years in hospital practice at Toulon. He was commissioned a surgeon in the French Navy. He arrived at Plymouth, Mass., in January, 1778. Subsequently he resigned and adopted this country as his home. When Rochambeau and his army were at Newport, he went there and performed dental operations for his officers. In 1783 he went to New York, but in 1784 removed to Philadelphia, where he was engaged in a successful dental practice for forty-five years. He was justly celebrated in his day as a cultivated gentleman of great inventive genius. An article by him appeared in the *Philadelphia Medical Recorder*, on Transplantation of the Human Teeth. He returned to France, and died at Bordeaux, August, 1831. His name will always be prominent among the best of American dentists.

Josiah Flagg commenced practice about 1782, and was at 47 Newbury street, Boston, in 1796, at which time he advertised for "handsome and healthy teeth" for the operation of transplantation. Flagg held a Major's commission in the Revolutionary Army. At the close of the war he began to practice dentistry, having been taught by an officer under Rochambeau while the two armies were quartered in Rhode Island. During the war of 1812 he was taken as a prisoner to England, and while on parole made the acquaintance of Sir Astley Cooper and worked under him in Guy's Hospital. He died at Boston in 1816.

John Greenwood is believed to have been the first native-

born American dentist. At the age of fifteen he was a soldier; he fought at Bunker Hill and Trenton. He was with Arnold's expedition to Canada, and afterwards in the naval privateer service until the close of the war, when he learned the manufacture of nautical instruments, but gradually worked into dental practice, studying thoroughly the surgical department. He is said to have been the only dentist in New York in 1790, about which time he constructed an entire denture for General Washington, and another in 1795. He had two sons, who later were dentists.

A Dr. Spence is mentioned as having had some instruction from Le Mair and practicing in Philadelphia somewhere about 1790.

Up to 1800, practice consisted mainly in extracting, cleaning, filling simple cavities in the natural teeth, and replacing those lost by crude artificial ones. The works of Hunter and some French authors, brought to this country about this time (1796-1800), awakened an increased interest in the art, and with the beginning of the present century a new era began to dawn upon dental science.

It would be an act of gross injustice not to mention here a few of the early dental practitioners who began their career about 1800, to whom must be ascribed the credit of directing the way toward that path which has been rapidly leading their followers to thorough, scientific and ethical practice of their calling; for it is to these pioneers, with their untiring zeal and that of their compeers in Europe, few in number, that American dentistry owes the beginning of the high consideration which it enjoys at home and abroad. During these early days the founders of dental science had many obstacles and prejudices to overcome and contend with. The intolerant said: For ages man has lived and prospered without giving particular attention to his teeth. If our forefathers could do so, why not follow in their footsteps? What need have we of dentists? The superstitious declared: It is wicked to restore these organs which God in his judgment has decreed should be taken away. The ignorant loudly asserted the utter uselessness of dental aid, unless it be with the relentless turnkey: the enamel will surely be injured by the use of tooth brushes

and dental instruments: death from hemorrhage may result where the gums are congested, should they be brushed. Such were some of the prejudices of education and habit. The absence, too, of tried and approved instruments and modes of treatment was another difficulty. The diseases were seen and somewhat understood, the remedies indicated, but the necessary instruments and agencies had to be devised and proven before progress could be made. But these pioneers set themselves to work. They sought first the causes of dental lesions and their remedies. They found that extraneous matter in the teeth and the excess of blood in the gums must be removed. So they devised scalers, employed astringents, recommended the brush. Finding caries could be arrested by plugging, they devised means thereto, continually making improvements in methods and instruments, gradually feeling their way, seeking the cause, the remedy, or prevention, inventing the appliances, and, where needs must be, providing artificial substitutes.

Some of these pioneers who early strove to start dentistry upon the right road, are the following :

Dr. Horace Hayden, who commenced practice about 1804, was one of the first to conceive the idea that the dental profession was capable of a higher scientific standing. So, while practicing dentistry, he studied medicine, and received later an honorary degree from both the University of Maryland and Jefferson College of Philadelphia. By invitation, in 1825, he delivered a course of lectures on dentistry before the medical class of the former institution. He was one of the founders and professor of Physiology and Pathology, in the first dental college in the world, at Baltimore ; was one of the organizers and first President of the American Society of Dental Surgeons, organized 1840. He contributed largely to the literature of dentistry and medicine, and wrote a work on Geology, to which science he was devoted.

Edward Hudson was born in Ireland, 1772. Graduated from Trinity College, Dublin, and a dental pupil of a cousin, a prominent dentist of that city. On account of political troubles he left Ireland and commenced practice in Philadelphia, 1805. He was remarkably successful and was, says

Harris, "idolized by his patients as few of his professional brethren can ever expect to be". His standard of excellence was high, and by the success attending his practice the public were soon convinced that teeth could be saved instead of being extracted. He was thoroughly conversant with all the surgical operations required, at that time, upon the living teeth.

John Randall, a graduate of Harvard, 1802, studied medicine with Dr. John Jeffries, of Boston, and commenced medical and dental practice, 1805. His teeth commencing to decay while at college, he consulted the most celebrated dentist of that day, who informed him that "his business was to put in new teeth" and refused to operate on his natural ones. Thus was his attention turned to diseases of the teeth, and he immediately commenced the study of them. For, owing to his general education, he believed this idea of the practice of dentistry, which was the general rule at that time, was erroneous, and that through proper treatment the teeth might be preserved. His first efforts were in his own mouth while in college, and his fellow students were also benefited by his operations. Though he considered medicine his study, he devoted considerable time to teeth, and became very skillful; was one of the first to use the forceps in place of the turnkey. He died after a long and useful life, in 1843.

Leonard Koeker, born in Bremen, 1785. Though with little knowledge of the science, he commenced practice in Philadelphia in 1807, and continued until 1822, when he went to England and settled in London. He early became aware of his imperfection, and from being in great need at first of a teacher he became one himself, and he published, on Dental Surgery, a work of great merit, even now a standard of reference.

High in the catalogue of American pioneer dentists stands the name of Eleazar Parmly, who was born at Braintree, Vermont, March 13, 1777. (Dr. Parmly and his brother changed the spelling from Parmele.) Dr. J. Brockway, Sr., in writing of him, says: "As he favored me with a few items of his own and his family history, he shall speak for himself. He said: 'I commenced practice in Montreal in the Spring of 1815 with my brother, Levi Spear Parmly, one of the pio-

neers of the profession in this country, who was one of the first of his day, and a very remarkable man. He had the advantage previously of the instruction of Dr. Petrie and Dr. Randall of Boston. The latter, with Dr. Greenwood, had the control of the practice in Boston. Messrs. Parkhurst, Woofendale, Gaeten, and Greenwood had all that was worth having in New York. Philadelphia was more fortunate, having Gardette, Hudson, Koecker, all of whom in that were remarkably clever men. The two first having the advantage of being educated to the profession; the second being the son of a distinguished dentist in Dublin, Ireland. Hayden, of Baltimore, was an exceedingly clever man, being a mineralogist as well as dentist. In 1817 I met with a young gentleman by the name of Shymanski—gentlemanly in every respect—who had studied and practiced dentistry in Poland as they understood it there.

“These were the principal dentists of that day.

“I met with no other person who even called himself dentist from Philadelphia to New Orleans, and I practiced in the principal towns going west between the two places. But feeling my total want of a knowledge of the profession, I went to Europe to study, where I became thoroughly acquainted with silicious teeth. On my return to New York in 1822, my brother, Levi S. Parmly, settled in New Orleans; my brother Jehiel going south during the winter. My brother Samuel settled in New York. My cousins Jehiel and David are still in New York; their brother Ludolph settled and died in Mobile. I have already given you the names of the principal men of 1815, and now, at seventy-one, I have seen the profession grow from an art to a science, with societies, colleges and schools, where little else is taught, and the number of dentists beyond counting; and of this number, a few have been successful, but the greater number have lived along as you see them now.’” Dr. Eleazar Parmly had an extensive practice for thirty years in New York. His distinguished characteristic was a scrupulous attention to little things, which, joined to integrity and cultivated tastes, laid the foundation both for his fortune and his popularity. He lived to see an advancement in the profession, of which he was

an ornament, such as falls to the lot of few men to witness. His career, almost coeval with dentistry as a profession, embraces an epoch of great and varied interest.

Prof. Chapin A. Harris devoted the business portion of his life to the advancement of all the interests of dentistry as a profession, and elevated the calling to the dignity of a science. With Eleazar Parmly he established the first dental journal, *The American Journal of Dental Science*, which he edited for twenty years. He constructed the only Dictionary of Dental Surgery, assisted in establishing the first dental society and the first dental school, the Baltimore College of Dental Surgery, and published one of the best of dental text-books. He commenced his medical studies in 1820, and began to practice in Ohio about 1823. He paid but little attention to the mouth until 1827, when the works of Fox, Hunter, and others, directed his attention to dental surgery and its exclusive practice. He settled in Baltimore in 1833, where he remained until his death in 1860. It was in the winter of 1839-40 that he obtained legislation for the incorporation of a College of Dental Surgery at Baltimore. He, with his associates, lifted the practice of dentistry from that obscure empiricism which had largely characterized it, into the clear light of scientific inquiry and demonstration; and assisted in founding the Baltimore College of Dental Surgery, upon which the system of dental education has been built.

Samuel Fitch, M.D., of Philadelphia, who in 1829 wrote a *System of Dental Surgery*, the first elaborate work on the subject published in America, says, in speaking of dentistry of that time: "In most parts of the United States, with the exception of the largest cities, it is very little understood. In some of our large towns we have probably as ingenious and intelligent surgeon-dentists as are to be found in Europe."

During the early days of the century we are celebrating to-day, when the limited number of inhabitants and the stirring events of the period precluded the possibility of any special importance being attached to the curative art, those then seeking this field of labor were generally of a class deficient in theory and experience. Dentistry suffered more, even, than medicine.

With the great majority of practitioners, dental operations were extremely crude and limited. At this time the almost universal remedy for nearly all diseased conditions of the teeth, except simple caries, was the forceps and the substitution of artificial dentures. Americans, however, always quick of perception, soon discovered that diseases of the teeth could not be intelligently and successfully treated without a knowledge of their anatomical structure, as well as of their surroundings.

Now, having viewed the status of dentistry at the beginning of the century, let us briefly look at its present advanced position; for to trace its progress from its primitive condition would be a task far too extended for this occasion.

As has been already stated, the construction of artificial dentures was the earliest branch of dentistry; therefore, a few words as to the "then" and "now" of this department. Then, use was made of human and other animal teeth, either fixed by pivots in remaining roots, fastened to adjoining teeth by wires or ligatures, or set on base-plates carved from ivory. In the early papers are found advertisements for beautiful human teeth for this purpose or for transplantation; the average price paid for them being two guineas. The living were not the only ones to supply this demand, as will be seen from the following quotation from Chambers' Book of Days: "It is said that the graves were not always disturbed to obtain possession of the entire body, for the teeth alone, at one time, offered tempting remuneration. Mr. Cooper relates an instance of a resurrectionist feigning to look out a burial-place for his poor wife, and thus obtaining access to the vault of a meeting-house, the trap-door of which he unbolted, so that at night he let himself down into the vault and secured the front teeth of the whole congregation, by which he cleared sixty pounds. Another, after a long and active career, withdrew from it in 1817, and occupied himself principally in obtaining and disposing of teeth. As a licensed sutler in the Peninsular and French wars, he had drawn the teeth of those who had fallen in battle and had plundered the slain; with the produce of these adventures he built a large hotel at Margate, but his previous occupation being disclosed, his house was avoided, and was disposed of at a very heavy loss."

Prejudice, on the ground of their being vehicles for communicating disease, caused them to be abandoned and the teeth of other animals employed as well as ivory and bone. About 1817, porcelain teeth began to be made in France, the color and shape of which, however, were very imperfect, being in shape very much like a split bean. In 1820 they were first made in this country, and at that time, and for years to come, these substitutes were made in the dentist's own laboratory. Now they are mostly produced by large manufacturers, and adapted to the mouth by the dentist. Now, instead of having only ivory as a base-plate, it is never used, but the porcelain teeth are beautifully mounted upon bases of gold, platinum, aluminum and various alloys, besides vulcanite and other plastic substances. In fact, so intricate are the manipulations, that properly conducted mechanical or prosthetic dentistry has become a specialty. Operative dentistry, as it is denominated by the specialist, including all that has to do with the care and treatment of the natural teeth, was, as we have seen, scarcely developed one hundred years ago. Then the teeth were extracted by that log-rolling device, the turnkey; crowns of human teeth grafted by pivots to the natural roots in patients' mouths; teeth were transplanted, as strongly advocated by John Hunter; and simple cavities were filled, and that only by the best dentists, with lead, gold and gums (Sandarac and Mastic). Where there was toothache or near approach to the pulp, the teeth were removed. These few, I believe, complete the list of operations at that time.

To consider in detail the advances made in the department of operative and surgical dentistry, since the early days of this Republic, would require more time than is at our disposal; in fact a volume of considerable size could easily be filled with the subject. On the other hand, it would surely be remiss to give no attention whatever to such marvelous progress; so let us rapidly review, in regular order, the several subdivisions of this department.

Filling materials, for repairing and arresting the ravages of dental caries.

It has been seen that lead, and, to a small extent, gold, were used for the purpose; but ancient though the practice of

plugging carious cavities is, little regard, up to this time, was paid to physiological or pathological conditions. Gold was introduced here about 1795; and the dentist who wished to employ it, procured coins and had them rolled down to such thickness as he desired. About 1812-13, Marcus Bull, of Hartford, began gold-beating. An apprentice of his has said: "Dentists would borrow his rolls to roll out their old Joe's" (referring to the Brazilian Johannes, which contained at that time the purest gold). Mr. Bull later removed to Philadelphia, and began the beating of gold-foil for dentists. During the earlier days of the use of gold-foil it was rolled into ropes or pellets, and cavities filled by the wedging process, as one would stop a seam by caulking. About 1855, Dr. Arthur, of Baltimore, brought out a new method of using gold-foil, which consisted in thoroughly annealing it over a spirit-lamp, thus developing adhesive, or rather cohesive, properties; so that from a properly anchored small particle of gold, a solid mass could be built up, particle by particle, so as not only to fill a cavity, but to restore parts, or even the whole, of the crown of a tooth. Since that time cohesive gold has been generally employed, but has not entirely superseded soft gold (as the unannealed variety is called), which is of great value for special work. Gold comes to the operator, now, in an almost endless variety of forms; such as cohesive and non-cohesive foils of all thicknesses, pellets, cylinders, blocks, ropes of all sizes and shapes, combined with platinum for hardness and color, as well as in various preparations of sponge or crystal golds, chemically or electrically prepared, and nearly as easy of manipulation as wax or putty. The first of this crystalline form of gold was introduced about 1846. Gold still continues to hold the most prominent position among filling materials, wherever the conditions of the dental organs permit of its use. Lead was eventually displaced by tin, which seemed superior, and is used, even now, in special cases. It is prepared both as chemically pure foil, and in a fibrous, felt-like condition. Silver was tried as a filling material, but long since abandoned, owing to its oxidation in the mouth.

The difficulties experienced in the use of simple metal

fillings led to the employment of plastic fillings. Next to gold, the most prominent materials are amalgams, oxychloride or oxyphosphate of zinc, and gutta percha. The first of these, introduced here in 1833 by the Crawcours, two French empirics, was soon afterward the cause of an exceedingly prolonged and bitter controversy,—a commotion which was passed into history as the “Amalgam War”. The alloy from which amalgam fillings were made, has been modified and improved by scientific research. So that various amalgams have resulted, each having its proper uses; and there are few, out of the whole number of practitioners, who do not, in special cases, resort to it.

The oxyphosphate and oxychloride of zinc cements are generally employed as temporary fillings, in capping exposed or nearly exposed pulps, in frail teeth, and in root canals. In much the same manner, also, are the various preparations of gutta percha (with which are incorporated various mineral substances) employed. Compound fillings are often made, composed of any of the above named materials adapted to conditions met with.

Let us now consider improvements in instruments and appliances,—a department closely connected with the last, and where, too, improvements in methods of manipulation may be touched upon. The turnkey has been laid aside long since; and, in extracting teeth, forceps of various forms and shapes, together with elevators, are universally employed.

Passing over the various modifications, additions, and improvements in the way of excavations, pluggers, and various forms of instruments which derive their power from the hand of the operator, let us only treat of such instruments and appliances as have wrought radical changes in methods of operating. The introduction of cohesive gold, about 1855, necessitated changes in methods and instruments. As the cavity and filling must be kept absolutely dry, so, from the use of napkins, the seekers for the best groped in all directions, employed all kinds of tongue holders, salivary duct compressors, cofferdams of wax, string, cross-sections of rubber tubing to stretch about the tooth; until, about 1864, Dr. S. C. Barnum brought forward the now well-known

“rubber dam”. The profession were not slow to recognize its merits. It, in conjunction with the saliva pump, is one of our greatest improvements and blessings; as it enables the operator, by absolute dryness, to see all imperfections of tooth structure, to make an operation less painful, to proceed without undue haste and anxiety as to evil effects of moisture. It is of inestimable value in treating all diseases of the dental pulp, allowing of their treatment antiseptically and through medication, without the entrance of the medicines employed into the oral cavity, or of the entrance of foreign matter into the pulp-cavity and canals.

The introduction of cohesive gold also led to different methods of condensation of the filling materials, necessitating thereby new forms of plugging instruments, which developed the use of the mallet, which has, in turn, been superseded to a great extent by automatic, mechanical and electric mallets or pluggers, enabling thorough condensation of gold in less time, and with less annoyance to the patient.

About 1868, C. L. Green introduced a rotary cutting mechanism, driven by compressed air, to take the place of hand instruments in the preparation of cavities for filling, and for all cutting of the dental organs. Since that time improvements have been rapid and thorough; so that, to-day, nearly all such cutting is done more rapidly, more safely, with greater ease, and, if rightly handled, with less pain to the patient, by mechanisms known as dental engines, whose motive power is the foot of the operator—often water and gas motors, but generally electric motors supplied with power from electric light stations.

From these dental engines came, too, the larger surgical engines. Improvements also have been vast in the way of any appliance which conduces to rapidity, ease and thoroughness of operation; such as mechanical wedges for rapid separation of teeth, clamps for holding the rubber dam, &c.

It is only since 1835 that the anatomy of the teeth, out of which naturally arose new views of their physiology and pathology, can be said to have been fairly understood. Since then, Americans, always quick of perception, have been inventing, adopting, adapting, and improving their modes of

treatment, as well as the instruments, materials, and medicines pertaining thereto; and improvement has been rapid. As the need of more thorough, scientific knowledge became apparent, medically educated men began to engage in dentistry; and from this time, especially in this country, the growth and expansion has been something wonderful. Now, it is only as a last resort that teeth are extracted. Naturally, with this growth, the limited number of medicinal substances used by the dentist has rapidly expanded from a few remedies like creosote, oil of cloves, and opium; so that, now, the materia medica of dentistry and general medicine are identical. In fact, our forefathers' aspirations were almost entirely in the direction of dental *surgery*, strictly so called; whereas the present generation might more properly be styled one of dental *medicine*. Since the germ theory of disease has entered so largely into the treatment of dental caries and of pulp lesions, the dentist is seizing with avidity upon every new germicide and antiseptic brought to the notice of medical men.

A few words, now, as to the dental pulp and its treatment. During the early days we have been reviewing, any near approach to this organ by caries, indicated extraction as the only cure of the odontalgia thereby engendered. Just before the commencement of the present century, attempts to soothe the pain were made with oil of cinnamon, cloves, turpentine, or a bolus of opium; and Woofendale says in his work, published in 1783, "destroying the exposed nerve by the actual cautery is an operation I have sometimes performed with success, and many times without any".

About 1836, Dr. Shearjashub Spooner recommended the use of arsenious acid for the destruction of the dental pulp. The practice originated with his brother, J. R. Spooner, of Montreal. This medicament is still used for this purpose, combined at the present day with cocaine. To trace the development of the modern treatment of exposed pulps and pulpless teeth, would consume too much time; so suffice it to say, that at the present time every effort is made, under proper conditions, to bring the exposed dental pulp to a normal condition, and then cap or cover it with some filling material which is as poor a conductor of thermal changes as

possible. Where success attends the operation, the pulp makes a deposit of lime salts—secondary dentine—to protect itself; and the cavity may be filled permanently at a later visit. In case it is deemed advisable so to do, the pulp is destroyed, removed from its cavity and canal; and, after thorough antiseptic treatment, the pulp canal, pulp cavity, and cavity of decay are filled with proper materials, and generally the tooth does good service for years. The periodontal membrane, however, does sometimes become inflamed; but generally, proper treatment will arrest its progress. We may say, therefore, the practice of pulp treatment has changed from destruction to salvation of that organ. Teeth having putrescent pulps and abscesses caused by such pulps, can, by proper medication, be rendered useful organs.

As to the treatment of abscesses of the gums, great advancement has been made since the days when it was recommended "to stablish and steadfast the teeth, and to keep the gummes in good case, it shall be very good each day in the morning to wash well the mouth with red wine". Now, various well-defined diseases of the gum are recognized, and receive their appropriate treatment. Among these lesions of the gum and alveolar margins is one, *pyorrhea alveolaris*, long known as scurvy of the gums, and often incorrectly spoken of as Riggs' disease. The late Dr. Riggs, of Hartford, deserved credit for working out a line of treatment for this malady; restoring the gums, teeth and alveoli, often to a normal condition. It is correct to speak of Riggs' treatment, but not of Riggs' disease.

The mention of Dr. Riggs naturally reminds us of the next division of our subject; he being the first to perform an operation under anesthesia, in the mouth of Dr. Horace Wells, its discoverer, December 11, 1844. Here certainly is at least one inestimable boon that the dental specialist has conferred upon the general practitioner, as well as upon suffering humanity. It is unnecessary here to repeat the story. You are all familiar with it. Dentists have experimented largely in every form of local anesthesia, from the days of Dr. H. S. Chase, then of Woodstock, Vermont, in 1850-1, who operated cruelly on sensitive dentine by dipping a pledget of cotton in ether, and placing it in the cavity. Various freezing

mixtures, about 1855, were employed. Rhigoline, a volatile product of petroleum distillation, was largely used in the form of a spray, at one time. Electric, or galvanic anesthesia was also employed about 1858. Cocaine has been largely used of late, outwardly applied and injected into the tissue.

The dental operator has been continually seeking after some preparation to relieve the pain in cutting sensitive dentine. An infinite variety of materials have been tested; and the market is flooded with, and charlatans advertise, secret remedies which are absolutely safe and completely successful; but, as yet, there is no known substance which can be applied to dentine, that will surely accomplish the desired result. The rubber dam, absolute dryness, even by employment of hot air, combined with small, sharp, cutting instruments, rapidly driven by the dental engine, are great factors in arriving at painless cutting of dentine. Sometimes medicaments and mental impression, used in conjunction with the above, aid materially. It is my experience, that when some patients know you are employing an agent calculated to make the cutting painless, the benefit is greater than if the agent is employed without their knowledge.

One hundred years ago little thought was given to the treatment of oral deformities. Up to 1880 there was no special book upon the subject; now there are at least three large and elaborate works, entirely devoted to it. At the present time the following are some of the departments of this field of practice: Correction of the deformities produced; improving personal appearance, as well as mastication and speech, by the correction of irregular, crowded or misplaced teeth produced by various causes, among them heredity, lack of attention to the deciduous teeth, thumb-sucking, adenoid growths, &c.; treatment of maxillary fractures, by interdental splints and other means; treatment by obturators and otherwise, of palatine, buccal, nasal, and labial defects.

There were, in those early days, two operations already mentioned,—replantation; that is, extracting a tooth, and returning it to its own socket; and transplantation, extracting the tooth of one person, and replacing it with a tooth immediately taken from the mouth of another. These operations

are quite ancient, but very little practiced at the present day, owing to risk involved. An operation allied to these was conceived, and published to the profession, in January, 1886, by William J. Younger, M.D., and named by him implantation. Dr. Younger has demonstrated to the full satisfaction of dental specialists, that teeth long since extracted can be implanted in artificial sockets drilled in the jaw, and that they will there become firm and do service. Sufficient time has not yet elapsed to prove whether these operations can be made completely successful. In those cases where the operation has proved a failure, it was due to absorption of the root of the implanted tooth.

The treatment of diseased antra, being so intimately connected with the teeth, now comes generally to the dental specialist; he having appliances with which to rapidly reach the cavity and attend to its derangements, and being also continually accustomed to manipulations in the mouth. The same naturally can be said of all lesions in the mouth.

As to the now-and-then of dentistry, one could go on indefinitely; but I will not detain you while I treat of the vast improvements along the line of dental prophylaxis and hygiene; the care and preservation of the deciduous teeth; anticipative care of the teeth of the young, with a view to better teeth in middle age and advanced life; of the continually improving of dental education, literature, legislation and association; of the improvements, or, to speak more correctly, to the working out of correct dental anatomy, physiology, and pathology, and improved ideas of dental caries.

To what is due this advancement of American dentists? Fertility of American mind in originating appliances, of combining and improving upon those already known, by the avidity with which new and intricate processes producing approved results are seized upon and turned to immediate use by those interested, under the spur of a constant demand by the public for that which is newest and best; to the freedom of inquiry which has characterized our best men (many at times, far into the realms of speculation); to their liberality in freely giving the fruits of their labor to other seekers after light; to dental colleges, associations and clinics.

THE SECTION OF THE PRAC-
TICE OF MEDICINE AND
HYGIENE.

THE SECTION OF THE PRACTICE OF MEDICINE AND HYGIENE.

The Section met in the room of the Class of 1893 at 2.50 p. m., on Wednesday, the 26th, and was called to order by the President, Dr. Porter, who read his address, *The Beginning and Development of Scientific Medicine, Previous to the Nineteenth Century*.

He was followed by Dr. W. G. Daggett, whose paper was entitled, *Contagious Diseases; a Study in Histological Etiology*. Dr. Fuller, of Hartford, made some remarks upon the subject.

Dr. Calef read a second paper on *Contagious Diseases*, his subject being *Diphtheria*. Doctors F. W. Wright and O. T. Osborne took part in the discussion.

The exercises of the first day were closed by Dr. A. J. Wolff, with a very elaborate exhibition on the *Recent Developments of Tuberculosis*, illustrated with many photomicrographs shown with the light upon a screen.

SECOND DAY.

The Section was called to order by Dr. Porter at 2.50 p. m.

Dr. Almy opened the exercises with a paper on *Camp Hygiene*.

A telegram was received from Dr. Shephard which stated his unavoidable detention, and his paper, on *House Hygiene*, was read by title.

Under the general heading of *Tuberculosis*, Dr. Holmes, of Waterbury, reported an autopsy made upon a gentleman aged ninety-five, who was supposed, when younger, to have had consumption, but which had been cured. The post-mortem revealed the result of a diseased condition of the upper lobe of the right lung, which had been arrested years ago. The discussion of tuberculosis was continued by remarks upon

the comparative value of later remedies, such as sulphuretted hydrogen, tuberculin, guaiacol, creosote, &c. Dr. Wile read a paper on Tuberculosis, Its Climatic Influences.

Dr. Caroline Conkey was unable to be present and her paper on The Modern Medical and Hygienic Treatment of Tuberculosis was read by Dr. Godfrey.

Dr. Kent dwelt in his remarks upon the scepticism of some medical men regarding the curability of Phthisis and urged that the percentage of recoveries was quite large.

Dr. Godfrey laid stress upon the prevention of the disease by killing all tuberculous animals and the hygienic supervision of tuberculous persons.

Dr. Alton called attention to the value of increasing the respiratory capacity of the lungs. Persons suffering from slight lung troubles and those after recovery from pneumonia, should be taught the practice of breathing deeply.

Dr. F. Sumner Smith thought it was a disadvantage to the tuberculous patient to remove him from home life and place him in another climate without anything to think about excepting his disease.

To show that all of our so-called new ideas are not really new, Dr. Wolff mentioned seeing an article on the use of wood creosote for tuberculosis, written during the seventeenth century.

Dr. Marcy, President of the American Medical Association, made some general remarks upon the subject and spoke particularly of the work of Dr. Bowditch, of Boston, his preceptor, on consumption.

Dr. Wile spoke disparagingly of the Adirondacks as a health resort and the valuelessness of cod liver oil.

Dr. Godfrey closed the work of the Section with a paper on Camp Hygiene.

THE BEGINNING AND DEVELOPMENT OF SCIENTIFIC MEDICINE PREVIOUS TO THE NINETEENTH CENTURY.

BY G. L. PORTER, M.D., BRIDGEPORT, PRESIDENT OF THE SECTION,

Members of the Connecticut Medical Society :

To you I desire to return thanks for the honor of the appointment to preside at this Centennial Celebration of the Connecticut Medical Society, over the Section devoted to Practice and Hygiene. It was a position unsought for and unexpected, and one which I would gladly have seen occupied by some other member of the Society, who had been longer connected with its organization. Absence from the State and failure to receive official notification of the appointment, prevented my resignation until so considerable a time had elapsed after the action of the committee, that it was deemed hardly fair then to transfer to my successor the laborious and responsible duties.

Complying with the general plan of the Centennial Celebration, I have attempted to confine the papers of this Section to those professional subjects, which will most appropriately and characteristically present the change and advance of medical opinions concerning the knowledge and treatment of certain diseases which are specially destructive to life in this State, and to the general department of hygiene, that division of medical investigation developed in a large degree by the practical experience of the last hundred years.

The disquisitions, which will be submitted for your consideration, deal with the general progress of Medical Science, the special subject of contagious diseases, the theories and treatment of consumption, and the various applications of the recent acquisitions which we have gained in the domain of

hygiene, as employed in the camp, the home and in educational and other public buildings, as well as in its wider adoption in country, town and city sanitation.

These papers, prepared by prolonged research and investigation, will be reviewed by gentlemen who have given the subjects special attention, and I respectfully bespeak for them, not only your consideration, but request, in order to make our sessions more interesting and instructive, your criticisms and opinions.

The special papers relating to the general history of the Society and the biographical memoirs of its distinguished members, have narrowed the selection of subjects for the address of the official head of this Section. As a logical introduction to its particular work, allow me to present, as concisely as may be, a review of the origin and development of scientific medicine previous to the nineteenth century. During the dark ages what little medical knowledge of diseases there might have been, and administration of drugs, had degenerated from the teachings of Hippocrates and the lectures of the Alexandrian Schools, into the empirical practice of the priests. The astrologers and alchemists of Arabia were the authorities of western Europe. The fugitives and survivors of the Crusades were the propagandists of the theories of the Orient. The intelligent methods of the investigators previous to the Christian era had been condemned as hostile to the principles of religion ; post-mortem examinations were repugnant to public opinion and were prohibited by the laws of Nations and the edicts of the Church, and all avenues to the acquisition of medical knowledge were obstructed by ignorance and superstition, and closed by religious bigotry and intolerance. The Crusades were potent means of education. Nations, formerly hostile to each other, were united by a common purpose. The most enterprising and independent men of many countries, stimulated by fanaticism and ambition, were brought into familiar and friendly contact, amid pleasures and dangers, and by travel and increased knowledge were largely liberated from priestly intimidations and local prejudices. The libraries of the Greek monasteries of Constantinople, which had been the refuge of the learned men

driven from Italy and the West, were opened to the studies of scholars. The Reformation made independent thinkers. The feudal system was disintegrating. The entire social, literary and political condition of Europe had entered upon a higher evolution. Amid these surroundings and influenced by a similar enterprise and enthusiasm, medicine entered upon a new and better existence. Naturally it had its birth in the study of anatomy.

In the fourteenth century Mondina, of Bologna, publicly dissected two female subjects; he published a work on anatomy which for three hundred years was a text-book in the Italian universities, and he is also entitled to the gratitude of posterity for having given a very early, if not the first, example of anatomical plates; the figures were cut in wood, and although, as might be supposed, they were not executed with much elegance or delicacy, they are said to have been correct and expressive. Thus after a lapse of seventeen centuries dissection of the human body again opened the way to the development of scientific medicine.

Dunglison states that "the greatest discoveries (in medicine) which signalized the sixteenth century were those which took place in anatomy. Every part of the human frame was carefully studied and important discoveries made. Those professors who contributed more especially to the knowledge of the structure of the human body were Berenger de Carpi, who dissected more than one hundred bodies and to whom the art is indebted for numerous discoveries; James Dubois (Sylvius), the master of the great Vesalius and the true founder of anatomy in France, and also the first who injected the blood-vessels; Andreas Vesalius, the most accurate anatomist of his day, the author of the first anatomical plates executed after nature; Eustachius, the discoverer of the Eustachian tube; Gabriel Fallopius, who described the Fallopiian tube, bestowing upon it his own name; Fabricius ab Acquapendente, who first described the valves of the veins, a discovery which contributed to facilitate that of the circulation of the blood; and lastly, Michael Servetus, who also contributed to the same discovery, which took place in the following century; the latter anatomist comprehended the lesser circulation, or that

through the lungs." The honor of the great discovery of the complete circulation of the blood, which has withstood the criticism and commanded the approval of all succeeding time, belongs "to William Harvey, physician to James I. and Charles II. of England, and Professor of Anatomy to the College of Physicians in London, who, in the year 1619, made known to his pupils the general mechanism of the circulation. The great discovery was for a long time contested and attacked from all sides with the greatest acrimony, and it was remarked by Hume, as an evidence of obstinate adherence to preconceived opinions, that no physician in Europe who had reached forty years of age, even to the end of his life, adopted Harvey's doctrine of the circulation of the blood." "Malpighi, of Bologna, demonstrated microscopically the course of the corpuscles of the blood in the ultimate vessels and also corroborated the fact of the communication between the veins and the arteries." "Gaspard Ansilli discovered the lacteal vessels in animals." "The excretory duct of the pancreas was detected in a guinea-fowl by Hoffman and Wirsung." Sylvius, Wipfer, Swammerdam, Steno, Francis Joseph Burrhus threw much light upon the structure of the brain and spinal cord; Thomas Willis published a treatise on the brain and gave his name to the circle of Willis. Pecquet found the common trunk of the lacteal and lymphatic vessels.

Much study was given to physiology, accomplishing important results. Swammerdam, Mayow, Borelli, Bellini, Pitcam and Raymond Vieussues devoted themselves to the functions of respiration, circulation and nutrition; Thomas Wharton to the glandular system, and Rudbeck published observations upon the lymphatics. "Newton, Kepler, Scheiner, Descartes, determined the properties of the different parts of the eye relative to vision, and Scheiner demonstrated that the retina is the true organ of sight. The physiological processes of generation occupied the attention of Hartsoeker, Drelincourt, Ruysch, Raw, Spigelius, and Sanctorious, whose investigations by dissections, injections of vessels, and use of lenses, comparing, refuting or corroborating the opinions of each other and of others, established those fundamental physiological beliefs, which are accepted in our own times."

In Surgery the crude and cruel practices of the Dark Ages had yielded place to operations founded upon correct anatomical knowledge. The trade of the barber had been magnified into a more or less scientific art. Germain Calot at the close of the fifteenth century, and in the beginning of the sixteenth John de Romaine and Laurant Calot, were famous throughout western Europe as successful lithotomists. "Still later in the century Peter Franco became renowned for this operation and was the inventor of several improved instruments." The introduction of firearms in military affairs gave fresh impetus to the study of anatomy and of the injuries of warfare, and required original treatment. The invention or discovery of the use of the ligature to close bleeding vessels by Ambrose Paré, entitles him to the everlasting gratitude of mankind. Red-and-white-hot iron and boiling oil were relegated to the barbarous past. Paré was one of the most fortunate and illustrious men of the profession. His stirring life, amid courts and camps and battlefields, extended from 1509 to 1590. His abilities gained for him promotion from the humble position of barber to the high office of Medical Director of the national armies. He was able to inspire the soldiers with the belief that they would receive the benefit of every medical precaution and surgical relief; he was the trusted and beloved associate of the greatest military leaders of that warlike age; he was the confidential adviser of four successive kings of France; and he has furnished to all succeeding time the model of a skillful, authoritative, noble, honorable, medical officer—prompt in emergencies, harmonizing old methods with valuable innovations, accepting great responsibilities and courageous in the performance of all private and public duties. "Maggi Leonea, professor at Pavia; Botel, a celebrated anatomist; Felix Wurz, and Guillemean, a pupil of Paré, contributed important information to surgical knowledge." "Gasparo Tagliacozzi improved the operation for forming a new nose at the expense of the biceps muscle of the individual, now known as the Talliacotian operation," "in his enthusiasm asserting that the grafted nose possessed a more acute sense of smell than the natural one," and so

impressed "his fellow citizens that they erected a statue to him, on which he was represented holding a nose in his hand".

Anthony Chaumette, of France, published a complete Treatise on Surgery, and William Clowes, an eminent English surgeon of Queen Elizabeth's time, was the author of authoritative surgical works. In the eighteenth century Conrad Victor Schneider, who described and gave his name to the mucous lining of the nose; Francis Glisson, renowned for his researches regarding the anatomy of the liver; Scultetus; the German physicians, Etmuller, both father and son; Francis Mauriceau, the eminent French accoucheur; De Graaf, from whom the Graafian follicles received their name; Meibomius, whose name is connected with the anatomy of the eyelids; Peyer, whose name has been given to the glands of the intestine; Bonetus, memorable for his work on morbid anatomy deduced from post-mortem dissections, and Frederick Ruysch, who is said to have made the first anatomical preparations; these, and many other less illustrious men, instigated by the example and brilliant achievements of predecessors and contemporaries, laid broad and strong the foundations upon which the superstructure of medicine is even now being erected. The result of their labors contributed materials more imperishable than marble or granite or graven brass, not alone for the foundations but for the building itself. Yet after all they were only materials waiting the genius of the master builder. Many in vain essayed the task. Theories, fantastic and grotesque, were proposed; systems, false and absurd, were founded upon tradition and superstition; intelligent investigation was prevented by bigotry and ignorance; original ideas were subverted by personal egotism and arrogance, and individual opinions were stifled by class and church denunciation. The anatomical facts, and physiological processes, which had been so slowly garnered by those worthy explorers in regions previously surrendered to superstition and fable, were forced to do duty in strange and inappropriate offices, and the very knowledge—like half-truths—served but to postpone enlightened beliefs. The schools of Salernum, Naples, Messina, Bologna, Padua, Ferrara, Pisa and Paris were the most famous centers of medical instruction. All

attempted to bestow upon the art some systematic plan, but their efforts were cramped by the intolerance of the age. For a long time bigotry enforced the belief that pestilence and disease were the evidence of Divine displeasure and that prayer was the legitimate and only medicament, and the doctrine has yet a firm hold upon many, who are ashamed to own themselves victims of the modern faith-cure propagandists.

In the fifteenth century, "Marcellus Ficinus—a Florentine physician * * * uniting with some wise precepts on hygiene the most absurd conceits of judiciary astrology, laid down as a principle that the vital spirits of man are of a nature similar to that of the ether, which, according to the theosophical philosophy, fills the space in which the stars move, and he concluded that if we could procure this ether we might attain considerable longevity; an effect, which according to him, the preparations of gold taken internally would likewise produce", an idea which the recent wonderful results of the use of the bichloride of gold in the practice of Dr. Keeley would apparently corroborate.

The theories of the Arabians, tintured with alchemy and astrology, long excited a profound influence upon the medicine of Europe and largely shaped the theories of the schools, until successfully combatted by "Pico de la Mirandola and the faculty of Paris, who denounced them as diabolical and dangerous". They again revived, and by the teaching and influence of some of the schools again dominated medical opinion in the sixteenth century. Agrippa of Bologna, taught that "all the Hebrew letters have a natural signification, and that when demons speak they always do so in Hebrew, and that all diseases are influenced by demons"—a doctrine which spread through the schools.

The alchemists united themselves with the abettors of theosophy, but it was reserved for Paracelsus and Van Helmont to inundate the whole science with the mysticism of alchemical doctrine and language.

For a first-class quack allow me to present Paracelsus. His name was Philip Hochener, but upon attempting a medical career, by an auto-christening he became Philippus Aureolus Theophrastus Bombastus Paracelsus. "He was an

ignorant boaster but he still had the merit of having first introduced chemical remedies into medicine", and declared that "antimony was not to be equaled for medicinal virtue by any other substance in nature and he also appears to have first used mercury internally"; he maintained that "the human body is composed of salt, sulphur and mercury and that in these 'three first principles', as he calls them, health and disease consist". Not to be outdone by his modern representatives he asserted, after publicly burning the works of Hippocrates and Galen, that "all of the universities united had not as much knowledge as his beard, and that the hairs of his forehead had more instruction than all miters put together and that he possessed a universal medicine to secure immortality". In Basle, Switzerland, where he had been made Professor of Medicine and Chemistry, a rich canon, becoming alarmed at what he fancied was his last sickness, and exercising his reserved doubt as to the medical efficacy of prayer, offered one hundred florins to whoever would restore him to health. Paracelsus assured him of his ability to perform the miracle, administered three of the wonderful pills and the canon got well, but, like many another recovered patient, his gratitude departed with his disease, for being so soon restored and by such simple means, he refused to pay over the florins. A magistrate was appealed to but he decided that only the ordinary fee should be collected. "Irritated by the flimsy excuses and unpardonable ingratitude of the priest and at the magistrate's partial decision, Paracelsus declared that he would leave the inhabitants of Basle to the eternal destruction which they deserved", and that he would never again prevent a priest or a magistrate from going to the Devil in any way they pleased. He shook from his feet the dust of his native country and retired to Strasburgh, where the famous pies of the gastronomic city and the red wines of Hungary vanquished the virtues of the immortality-compelling pill and the notorious Paracelsus died at the age of forty-three. This unexpected event rather depressed the enthusiasm of his followers but only for a time, after which his theories flourished as vigorously as ever.

Paracelsus promulgated the dictum **similia similibis curantur*. Borrowing this and adding thereto the equally theoretic dogmas, that all diseases are of a spiritual origin and nature, or arise from the psoric miasm, of which the itch is the outward and visible and comparatively harmless sign, and that the more frequently a drug is divided or attenuated, the more spiritual and potential does it become, Hahnemann proposed the system of Homeopathy.

In 1644 Schröder published his chemico-medical *Pharmacopœia*, and shortly after, that of the London College made its appearance. The great modern improvements in chemical science are principally indebted to the medical and pharmaceutical writers of the sixteenth century, who rescued it from the alchemistic pretenders and gave it a place and character of its own. In the next century arose the Roscicnicians, who, adopting the theories and extravagant pretensions of Paracelsus, and adding thereto, probably, some of the results of experimental acquaintance with mesmerism, pretended to remedy all the diseases that "flesh is heir to" by the aid of faith and the imagination, claiming that "the most serious disorder ought to be suddenly cured by the sole glance of a true Roscicnician". More intelligent than these followed the Eclectic Conciliators, who were acquainted with the medical theories of the ancients, upon which they engrafted the absurd principles of Paracelsus. Characterized by an unbounded credulity, "they believed in the transmutation of metals, in the power of witchcraft and in the possibility of holding correspondence with the Devil". They lost no opportunity of asserting their medical omniscience and omnipotence and reaped a rich reward from credulous and easily persuaded followers. We are prone to deride the implicit confidence exhibited by former generations regarding the claims of blustering medical pretenders, but such impositions and resulting gains are confined to no single century and to no particular people; human nature seems ever eager to accept the mystical, and to champion the miraculous, in medicine. Within this very month, in the city of New York, a so-called

*These identical words occur in the Geneva edition (1658) of the works of Paracelsus.

doctor received a hundred dollars for consulting with the Devil by a letter written with the blood of his superstitious dupe. If in this year of grace, 1892, there should appear some clever, fluent, plausible pretender, asserting that he was the veritable Paracelsus, re-animated by his immortality-pills and re-invigorated by a three-centuries' communion with the spirits of the sidereal ether, and the demons of infernal regions, believers would flock to his standard; the gold of the rich and the silver of the poor would supply him luxuries and extravagances; the selectmen in our towns and the chief of police in our cities would approve him as the very flower of modern practitioners, and the laws of Connecticut and Massachusetts would confer upon him opportunities for lucrative imposition with the unrestricted license of their respective commonwealths.

At the beginning of the eighteenth century arose the Mathematical Sect. The ideas of the great philosophers, Kepler and Newton, dominated the scientific world. The anatomical knowledge of the origin and insertion of muscles, combined with mathematical problems applied to their physiological action, captivated the imagination of the theorists. Mathematics was accepted as the key to medicine. The absurdity of the deductions of the prominent exponents of the new science ultimately destroyed its influence. When one professor estimated the force of the heart as equal to one hundred and eighty thousand pounds, and another from the same premises reduced it to eight ounces, both clothing "these conclusions in all the imposing forms of the exact sciences", even human credulity cried a halt. Nevertheless, the "doctrine soon extended into all the schools of Europe. In Italy, and especially in England and Germany, the mathematicians vanquished the chemists", but in France the strife was long and bitter.

More or less prominent in all these systems was the popular and professional belief in the humoral theory, that was employed to explain the manifestation of diseases, and the action of medicines in their removal and cure. As the fluids of the body were supplied from the products of nutrition, and as they permeated the entire structure, they were natur-

ally believed to be active agents both in health and in disease, and the influence of this humoral pathology, surviving the transmutation of systems, exists at the present time, although modified and purged of much of its extrinsic absurdities.

While the chemists and mathematicians were, with unwearied obstinacy, conducting the old controversy, another theory challenged both systems and carried on a winning fight. Stahl, of Anspach, recognizing that the functions of animated bodies could not be exhaustively explained by either chemical or mathematical laws, taught that the principle of life resided in the soul, which, presiding over the animal economy, and foreseeing the dangers arising from injuries and diseases, attempted to protect the body by critical evacuations from the skin, lungs and digestive tract. But Stahl was more theoretical than practical, and when pressed to particularize the tangible facts predisposing to these results, and to explain the methods by which the soul acted upon the body, his ideas became confused and indistinct, and he involved his followers, if not himself, "in a labyrinth of metaphysical subtlety".

Hoffman, a cotemporaneous professor at Halle, was an active co-laborer with Stahl, and so prolix a writer that the titles only of his folio volumes "extend to no less than thirty-eight quarto pages". He recognized the new principle, but "many of the actions, which Stahl ascribes to the intelligence of his hypothetical principle, the soul or the anima, Hoffman explained by referring them to the nervous influence, a physical power of a specific nature, and operating by its own laws".

Sydenham, frequently styled the English Hippocrates, possessed a mind of great sagacity, and with Willis, his countryman, whom he much resembled, exerted a powerful influence upon the medical opinion of England. They both supported the doctrine of the humoral pathology and also taught, following the belief of Hippocrates, that "diseased action consists essentially in an effort of nature to remove some morbid or noxious cause, and that the great object of the practitioner is to assist in bringing about the proper crisis".

Another cotemporary - of Stahl, Boerhaave, of Leyden, attempted to found a new system by a wise selection from all

the rest. He was eminently fitted for such a work. His mind was broad and educated; his knowledge embraced the theological and medical wisdom of the age; his acquaintance with botany and chemistry was great; "his writings and lectures on medicine, both theoretical and practical, were long considered standards of excellence"; his judgment was critical, profound and reliable, and in addition to these qualities he possessed the faculty of a graceful composition and the power of persuasive and polished oratory. The personal influence of such a man, who would have been prominent in any community, was very great, and the theories of the system that he supported created a numerous class of adherents. The result of his labors did not equal his expectation, but tended to elevate the standard of succeeding systems. After his death his immediate students and others attempted to support his teachings, but with waning success. He had been pre-eminently a theorist, more heedful of the scholastic completeness of the system than of its agreement with recognized and newly discovered medical facts. His was a system of the library and the lecture-room more than of the bedside and the dissecting table, and naturally yielded to the development incident to better trained observation and investigation. Criticism revealed its vulnerability. The various parts of the body were too much restricted to their mechanical functions. In the words of Dr. Bostock, "this indeed may be considered as the radical defect of his pathological doctrines; he regards the component parts of the body too much in the light of mere mechanical agents, without sufficiently taking into account those properties which specifically distinguish them from inanimate bodies". His most illustrious adherent, himself possessed of many of the excellent qualities of his preceptor, was Van Swieten, who won the admiration and gratitude of all students of classical medicine by the publication of his *Commentaries on the Aphorisms of Boerhaave*.

Another of these students of the great teacher was Haller, who has been not inaptly termed the father of modern physiology. He recognized the fundamental error in the system, appreciated its importance and attempted its elimination. By him no theory was accepted unless supported by facts, no

fact admitted unless established by satisfactory corroborating testimony. Resembling his instructor in many particulars, he possessed the additional characteristic of a genius for original investigation and accurate judgment, by which he was able to establish "his theory of irritability and sensibility, as specific properties attached respectively to the two great systems of the animal frame, the muscular and the nervous, to which either separately or conjointly, may be referred all the phenomena of the living body".

About 1734 Sauvages, of the University of Montpellier, presented his methodical Nosology, a work which contains an arrangement of diseases into classes, orders, genera and species, of great original merit.

The crowning medical work of this intellectual and laborious age was reserved for Cullen, who at first was Professor in the University of Glasgow and then in that of Edinburgh. Possessed of an excellent education and profound learning, shrewd in the detection of error and discriminating in the selection of truth, not implicitly confiding in the statements of others, however positively they might be asserted, and yet quick to acknowledge wherein they were correct, restraining in his practice the enforcement of his speculations, ingenious, subtle and refined, if they were counter to his judgment, "he disclaimed all hypotheses and theories not derived immediately from facts, and made it his chief business to collect, by actual observation, the materials from which he might deduce his general principles". He pre-eminently excelled in the recognition, the description and the discrimination of the phenomena, and again to use the language of one of his biographers, "it may be asserted that no one produced a more powerful and lasting effect upon the state of medicine in all its branches, both theoretical and practical, than Cullen. * * *

He taught that the living body consists in a number of organs, which are all of them possessed of powers of a specific and appropriate nature, distinct from those which are attached to inanimate nature. These powers are so ordered that they have a tendency to preserve the whole machine in a perfect state, when its actions and functions proceed in their ordinary course. When any irregularity supervenes, the self-regulating

principle attempts to control the operation of the morbid cause and to restore the system to its healthy condition”.

The theories of Boerhaave and Cullen directed the medical opinions of the educated practitioners in the New World, and their works upon medicine were the accepted authorities. Indeed from the positions acquired by their systems there was no advance during the remainder of the century, nor had any great change in medical beliefs been accomplished until the recent scientific development of the germ theory; but with the progress of medicine in the nineteenth century other papers will deal.

The treatment of disease, as it is not strictly germane to our subject, has not been considered, but it would be inexcusable not to refer to a discovery, and innovation, which was made in the closing years of the century, and which has most radically contributed to medical progress, Jenner's introduction of vaccination. Although nearly a hundred years passed away before a really scientific explanation was given for the reason of its protection, the beneficent discovery was a fitting consummation to the long record of the results of the medical investigation and philosophy of that inquiring age.

Thus it has been attempted to concisely refer to some of the more prominent errors of medicine—to mention them all is unnecessary—and to some of the discoveries and theories which have been accepted as advancements.

Without undue claim this evolution may be considered the beginning of scientific medicine. It has been asserted that from the very nature of its relations, medicine must ever remain an art and can never become a science, but without sufficient reason. Pure science is the recognition of the powers, causes and laws of natural phenomena without regard to their special application, while art deals solely with the skill and manner of the employment of this knowledge. The practice of medicine has fallen under this condemnation by the failure of the profession itself to insist upon the importance of a proper education as a preliminary requisite for its membership.

The mystery of the life-bestowing principle, as that of the creation, may always remain beyond finite wisdom, but recog-

dition of the powers, causes and laws which govern the phenomena of the human body, creates a science of medicine. The diagnosis of disease, the exhibition of medicines, and the performance of surgical operations, are considered by the public, and often by the profession, the exhaustive qualifications of a doctor; as long as these criteria remain the standards, medicine will continue simply an art; it will be the combined result of individual experiment and experience, and the result, beneficial as it may be, will never change its innate character. Men may exert a powerful personal influence, and accomplish much individual good; they may even bestow upon their associates some of their own knowledge, but they can never raise medicine to the dignity of a science until the underlying principle of the bodily functions in healthy and pathological conditions are recognized and understood.

This is well illustrated by the state of medicine in the time of the Colonies and the early years of the Republic. Some of the practitioners in America previous to the nineteenth century were of marked professional ability and of great influence in their communities; they contributed important information regarding climatic predisposition, local diseases and indigenous remedies, but with few exceptions they are forgotten, and the record of their worthy deeds, and professional reputation, have passed into that oblivion, which terminated the grateful memories of their friends and contemporaries.

Directly or indirectly, the discoveries, which have made possible the advance of medical knowledge during the nineteenth century, have been accomplished by the employment of the modern instruments of precision.

Much of what formerly was intuitive, speculative, theoretical, has now become tangible; the germ theory—now dominating medical opinion—foreshadowed more than a century ago in the prose of medical writers and in dramatic verse, was then the creation of analogy or of poetic imagination, but in these latter times is philosophically founded upon facts which have been revealed by the microscope, corroborated by the laboratory, demonstrated in the lecture-room and established by

experiment. Without these adventitious aids our predecessors made great and accredited improvements, and if we now recognize their mistakes we must also remember that their wisdom can only be fairly estimated when compared with cotemporary learning, and that the men of a former generation should not be judged by the standards of later times, nor their knowledge criticised by the light of modern discoveries.

Taking into consideration their lack of many of our advantages, to their achievements we may apply the statement of Lord Bacon: "Most men believe that, if we who now live had had the office of first attempting that which was sought for and discovered by the ancients, we should not have come up to their works by a great space; and that if a man, even now, relying upon his own powers, should begin anew an inquisition, the result would be that he would come to the very same conclusion which was arrived at by antiquity, or else to some one, which having been attempted and rejected by antiquity, deservedly fell into oblivion."

CONTAGIOUS DISEASES—A STUDY IN HISTORICAL ETIOLOGY.

BY W. G. DAGGETT, A.B., M.D., NEW HAVEN.

The facts upon which the clinical history of a disease is based are not subject to change. They are open to observation, and the carefully made record of the clinical history of an epidemic of a thousand years ago would not differ essentially from the record of a similar epidemic of to-day. Both would include a record of palpable facts of a similar character. It is not so with regard to etiology and therapeusis, both of which are subject to the judgment of the observer, and both greatly changed with the lapse of time. The exact etiology and the best therapeusis of contagious diseases have not been discovered, and opinions in reference to them have varied within the widest possible limits. Opinions change with every light that a new discovery throws on them, and each succeeding generation of professional men holds to ideas upon these subjects different from those of its predecessors, and, in general, more nearly correct.

It may be of advantage to us on this anniversary occasion to look back into the past, and briefly review some of the theories which have from time to time prevailed in regard to the etiology of contagious diseases, and to draw from their study, if we may, some lesson which it will be profitable for us to consider.

We may observe in the first place that the earliest writers did not differentiate the contagious from other diseases, and that the etiology of this group, in so far as the remote or predisposing causes are concerned, was not considered apart from other affections. We may also observe that the remote and proximate causes are to some extent considered together—not always being clearly defined from each other.

The early Hindoo writers, as shown in the "Vadagasistir",* admitted three principal sources of internal disease, viz., flatulency, wodum, bittum, impure humors, and t'chestum. They believed that all cutaneous diseases were caused by worms. According to them there were in the body one hundred thousand parts, of which seventeen thousand were vessels. Each one of these is composed of seven tubes, giving passage to ten species of gases, which by their conflicts engendered a crowd of diseases.

The Chinese gave no place to etiology except in the most general way. Their medical repository, "Nuy Kim", attributed to Hoam-ti, who lived about 2687 B. C., gives heat and moisture as the two radical principles which cause disease, as well as all other phenomena.† Such a theory, by its simplicity and elasticity, does credit to its author and readily meets the requirements of their system.

The Hippocratic writers endeavored to establish a theory which should express the relation between varying states of the atmosphere and the prevalence of epidemic disease. They also entertained the theory of fluxions, which antedates Hippocrates, and assumes that cold and heat, by causing a stasis of the humors in one part of the body or another, gave rise to all diseases. Seven definite fluxions were admitted:‡ (1) To the eyes, (2) to the nose, (3) to the ears, (4) to the chest, (5) to the spinal marrow, (6) to the vertebrae and general tissues, and (7) a slow-going flux which causes sciatica and rheumatism. Hippocrates also founded the theory of the four elements; heat, cold, dryness, and moisture, and the four humors; blood, bile, astrabile and phlegm, which was the basis of the humoral pathology which prevailed for many centuries. The even distribution of these humors determined the equilibrium of health, while their uneven distribution caused disease. Astrabile was the subject of much controversy, and, while it was regarded by some as the cause of the gravest affections, by others it was regarded as identical with water, and practically a nullity as an active agent. One said

*Redouard, History of Medicine, p. 37.

†Redouard, History of Medicine, p. 39.

‡Redouard, History of Medicine, p. 130.

"the heart is the reservoir of the blood, the head of the phlegm, and the spleen of the water". Another Hippocratic writer maintains that air is the cause of all diseases. It is most essential and most ubiquitous, and therefore the one cause of disease. He says: "It may be too strong or too feeble, or be precipitated in the body, or enter it charged with miasms." Again he says:* "Much food necessarily introduces much air; for the air enters more or less into the body in proportion to the quantity swallowed of liquids or solids. For this reason wind is belched after eating or drinking too much. The air, being thus compressed, bursts the little cells in which it is contained and mounts upward. The body swells by excess of air and the food remains in the stomach, prevented by the great quantity of air from passing into the intestines. The air is diffused into all parts of the body and cools even the most sanguineous portion; it goes even to the origin and source of the blood, whence it is spread everywhere and produces the shivering that precedes fevers. The more air the more refrigeration and the greater the shivering."

Galen defined two species of distemper; the one from an excess of a single element, either heat, cold, dryness or moisture; and the other proceeding from an excess of two of these. He regarded the quotidian, tertian and quartan fevers as caused by phlegm, bile and atrabile respectively. His theory of proximate causes was but little different from that of Hippocrates; the latter explaining the cause of the several types of fevers as due to the quantity of bile; the former explaining them as due to the putrefaction of the bilious humor. Galen is quoted by Rhazes, an Arabian writer of the tenth century, as saying that the eruptions of the exanthemata are due to superfluous matter, which, not being made into blood, attenuates and putrefies, giving rise to erysipelas and variola. Reference to this cannot be found in any of the works of Galen now extant. Rhazes and Avicenna, another Arabian writer of the same era, are the first to mention eruptive diseases. The latter assumed the existence of the blood something akin to a ferment, and characterizes the eruption

*Redouard, History of Medicine, p. 137,

as an ebullition of the disordered blood. In common with other writers of the middle ages, he groups under the name "morbilli" all the febrile exanthemata, such as rubeola, scarlatina and roseola—the morbilli being a sort of bilious variola. "There is scarcely any difference," he says, "between these two classes of affections, unless that morbilli proceeding from the bile and a smaller quantity of morbid matter, do not affect more than the surface of the skin, nor produce in general any elevations which require particular treatment from the beginning elevations and pustules."*

During the fifteenth and sixteenth centuries, medical philosophy was lost in a maze of mysticism which at that time absorbed the attention of all learned men. Occult philosophy was invoked to explain the phenomena of disease, in common with all the other phenomena of nature. A fair specimen of the best writing of the age is the following quotation from Jerome Cardan :† "The indications of strength, of valor, and voluptuousness are revealed by the thumb, which is under the influence of Mars ; those of honorable positions, civil or ecclesiastical dignities, are located in the forefinger, which is controlled by Jupiter ; the middle finger, which is under Saturn, indicates capacity for the magical art ; it also indicates melancholy, poverty, care, quartan fever and captivity." A summary of the Cabalastic theory, of which the above is a product, is as follows : "All the events of life and all the phenomena of nature, proceed from the immediate influence which God, or demons, or stars exercised on the archetype ; that is to say, on the essential spirit of substances. He who is able to withdraw this spirit and knows how to ally it to other bodies, possesses the faculty of creating new beings ; he can fabricate gold at pleasure. The day and the hour of our birthplaces are under the domination of a particular star. Besides, each one of our principal members corresponds to some planet and shares its constitution."‡

In the early part of the sixteenth century Paracelsus boldly denounced the theories of Galen and Hippocrates and advo-

*Redouard, *History of Medicine*, p. 363.

†*Dictionnaire History of Medicine*. "Cardan."

‡Redouard, *History of Medicine*, p. 356.

cated a chemico mechanical theory of the proximate causes of disease. He admitted five causes of disease: (1) The Divinity himself, (2) the influence of the stars, (3) the forces of nature, (4) the errors of imagination, evil influences and enchantment, and (5) venoms and poisons, whether natural or artificial.* As proximate causes he mentions mercury, sulphur and salt. Mercury is the cause of mania, mortification of the ligaments and tremblings, as well as lethargy and contortion of the eyes and mouth. Sulphur causes fever, apostema, phlegmon and jaundice, as well as pleurisy, inflammation of the stomach and liver, megrim, diseases of the eye, tooth-ache and ear ache. Salt gives rise to gravel, gout, sciatica, diarrhea, ulcers, itch, erysipelas, cancer and herpes. He regarded the human body as made up, like the world, of fire, air, earth and water. The fire is the soul; the earth is represented by the dry parts; the water by the liquids; the air by that which we call gas. These four elements may cause disease.

In the seventeenth century Sydenham, the English Hippocrates, discredits the efforts of those who would discover the remote causes of disease, and asserts that such causes cannot be learned. He devotes much effort to the establishment of a law connecting the conditions of the atmosphere with those of disease. Writing of the plague of 1665 and 1666, he says: "That the air obtains a secret disposition or temperature productive of different diseases at different times is apparent to those who consider that the very same disease in one season proves epidemic and destroys great numbers, and in another seizes but few persons without proceeding further; as is manifest in the small pox, and, more particularly, in the plague. But of what nature the constitution of the air is which gives rise to these diseases I am as ignorant as of several other things about which philosophers cannot agree. * * *

A few persons in different places die of this disease for some years after a great plague, and it usually goes off by degrees; because the pestilential constitution of the air continues still in part, and is not yet entirely changed to a more healthful state."† He regarded scarlatina as "nothing more than a

*Redouard, History of Medicine, pp. 364 and 365.

†Works of Sydenham, p. 75.

moderate effervescence of the blood, occasioned by the heat of the preceding summer, or some other way". Erysipelas according to him proceeds from the same causes as all other inflammations; but chiefly from "sudden cold succeeding a great heat or sweat, and obstructed perspiration; drinking some strong liquors, and surcharging the stomach; and lastly, a remarkably hot and sharp blood". He affirms again that "all epidemics agree in being produced by one common general cause—viz.: Some peculiar state of the air—hence we may see how very various and subtle a method nature uses in producing diseases. * * * And it appears that as the specific differences of epidemic diseases, especially fevers, depend upon the secret constitution of the air, that those persons labor unprofitably who deduce the causes of different fevers from the morbid matter gradually collected in the body."*

In the early part of the eighteenth century there were many who tried to explain the phenomena of fever on strictly mechanical principles. These are referred to by Dr. Turner in his "Discourse on Fevers" in the following trenchant language: "What avails it to us that we are told that the pressure of an incumbent fluid upon a solid is in proportion to the altitude? What that in a cone the greatest resistance to motion is at the vertex; that, if the blood be so vitiated as that the strengths be augmented or diminished, 'tis the same as if the blood offended in its quantity; that the heat of the body is in a ratio compounded of the blood, its celerity and its constituent particles; that the secreted liquors in our bodies differ in degrees of cohesion, fluidity and quantity."† A little farther on he says: "No arithmetical proportions, no algebraic calculation, no geometrical mensuration, no axioms, deduced from the specific gravity of other fluids, their moments, degrees of attraction, repulsion, nor the impelling force by which they are thrown from their several pipes, will give us any just or adequate idea of fevers, much less advantage us in their cure, which you will find after all to be founded only upon a diligent observation, *not* of squares,

*Works of Sydenham, p. 9.

†Turner on Fevers, London, 1739, p. 38, et seq.

circles, tangents, angles of incidents, gravity, electrical attraction or other cant-like words, but of *nature* which way moving to help herself."

Dr. J. White, writing in 1711, says of the cause of disease :* "When the secretion of bile, spittle or any other humor is in greater proportion to the other secretions than is usual for other men of the same age, stature, weight and strength, within the same climate and who have the same manner of living; if this continue long it must produce a discrasy of the blood in that person and he must fall into some disease, or else why should all continue in health, and *he* too, when there is such a notable difference in the animal economy?"

William Fordyce in 1777 reasoned that "stagnating bile putrefies more easily than blood; and it is equally known that anything corrupted or putrid, is an enemy to the human body, impairs its vigor, disturbs its tranquility and perverts its motions. With justice therefore we may trace the origin of putrid fevers in phlegmatic and cachectic people to corrupted bile in the first passages."†

William Cullen writing in 1789 on "the Remote Causes of Fever" says:‡ "As fevers are so generally epidemic it is probable that some matter floating in the atmosphere and applied to the bodies of men ought to be considered as the remote cause of fevers; and these matters present in the atmosphere and thus acting upon men may be considered either as contagions, that is, effluvia arising directly or originally from the body of a man under a particular disease, and exciting the same kind of disease in the body of the person to whom they are applied; or miasmata, arising from other substances than the bodies of men producing a disease in the person to whom they are applied. Contagions have been supposed to be of great variety; and it is possible this may be the case, but that they are truly so does not appear clearly from anything we know at present. The genera and species of contagious diseases at present known are in number not very great. * * * Of the contagious exanthemata the

*White on Fevers, London, 1712, p. 19.

†Fordyce on Fevers, London, 1777, p. 28.

‡Caldwell's Cullen, Philadelphia, 1816, p. 139.

number of species is nearly ascertained, and each of them is so far of a determined nature, that, though they have now been observed and distinguished for many ages, and in many different parts of the world, they have been always found to retain the same general character and to differ only in circumstances that may be imputed to season, climate and other external causes, or to the peculiar constitutions of the persons affected. It seems therefore probable that in each of these species the contagion is of one specific nature; and that the number of contagious exanthemata is hardly greater than the number of species enumerated in the systems of nosology." Then, after speaking of the possibility of there being only one principal source of contagion, he continues: "To this purpose it is now well known that the effluvia constantly arising from the living body, if long retained in the same place without being diffused in the atmosphere, acquire a singular virulence; and in that state being applied to the bodies of men become the cause of a fever which is highly contagious. * * * With respect to these contagions, though we have spoken of them as a matter floating in the atmosphere, it is proper to observe that they are never found to act but when they are near to the sources from whence they arise; that is, either near to the bodies of men from which they immediately issue, or near to some substances, which, as having been near to the bodies of men, are imbued with their effluvia, and in which substances these effluvia are sometimes retained in an active state for a very long time. The substances thus imbued with an active and infectious matter may be called fomites, and it appears to me probable that contagions as they arise from fomites are more powerful than as they arise immediately from the human body."

Dr. Jackson, in 1791, after reviewing the various theories of fever, concludes as follows in regard to the element of contagion: * "We know that the more general remote causes of fevers are certain invisible exhalations, sometimes more evidently arising from marshy grounds, sometimes more obscurely diffused in the air, and sometimes obviously proceeding from the bodies of our fellow-creatures. We know

* Jackson on Fevers, London, 1791, p. 133.

likewise that these causes which are unfriendly to the human constitution are variously modified and combined and of various degrees of force or in various states of concentration, but we proceed no farther with certainty. We are not able to ascertain the nature of these effluvia, and it is only by conjecture that we trace them in the channels by which they enter the body. The changes which they operate on the solids, fluids or nervous systems before their action becomes obvious are totally unknown to us. We know, though the body lie exposed to exhalation even in a concentrated state, that an appearance of disease is not generally the instantaneous consequence. A space of time intervenes, various indeed according to circumstances, but always such as gives room to believe that the cause requires and actually undergoes a modification before it is capable of producing a fever or the paroxysm of fever. * * * When the state of the body and the remote cause approach to or arrive at a state of mutual correspondence, the disease is produced. When this state, which I call an aptitude, is changed or destroyed, the disease vanishes or suffers a change of form. This is a fact which cannot be disputed, and it seems to be the extent of our knowledge on the important subject of the proximate cause of fevers."

Wallis, in 1794, is perhaps the first systematic writer to draw a line between infection and contagion. He says: * "I assert that there are some diseases which are acquired by the particles of morbid matter floating in the circumambient atmosphere, either from that matter being inhaled by the lungs, impregnating what we eat or drink, or absorbed by the inhaling vessels of the skin, nose or fauces, whilst others are communicated from contact alone—hence the former of these I would term infectious, the latter contagious; and for this reason the modes of prevention would be different—for, in a country or town where the first was rife, quitting those places is absolutely necessary; but where the last, cautious residence in the same is sufficient, avoiding commerce with persons so contaminated, or touching any materials which are capable of

*Wallis on Disease, New York, 1794, p. 265.

retaining any of the contagious matter that have by them been used or handled."

William Cullen Brown in 1800 mentions first the proximate and then the remote causes of disease.* "It has appeared," he says, "in investigating the nature of fever that its proximate cause is involved in great obscurity and scarce to be guessed at. If any place, however, may be allowed for conjecture and supposition in a matter of such ambiguity it is probably to be sought for partly in the solids, partly in the fluids and in their mutual action. For it is not unlikely that the blood and fluids secreted from it swerve so much from their natural state, either in quantity, or cohesion, or mixture, or quality, and acrimony, both spontaneous and accidental, that the motion of the heart and arteries, and therefore the whole economy of the circulation and other functions, are deranged in various ways. Nor does it seem less consistent with reason to suppose that the whole set of fibres, both muscular and nervous, are affected in such a way that there arise spasmodic and inordinate contractions and unusual affections in some parts, which not only add strength to the original disorder, but derange the whole nervous system so as to cause it alone to seem affected. * * * But the remote causes, though almost without number, seem to be more manifest; among which are ranked both the predisposing and primary. Of these some proceed from the mind, some from a bad conformation of the body, some act externally, some internally. * * * Those proceeding from the body are certain vitiations of the fluids and solids in consequence of which some are more, some less, predisposed to fever. Under this head comes the patient's time of life and temperament, plethora, a morbid state of the bowels, hypochondriasis or hysteria, scurvy, vitiated fluids and a bad habit of body, lues venerea, a disposition to rheumatism and similar circumstances. But we must not omit to observe that the power of the primary cause is sometimes such as to immediately overturn and throw into bad health the best and soundest constitution. * * * Swallowing poisons, or the inhaling, or swallowing or absorption by the skin of poisonous, malignant or

*Brown's History of Medicine, 1800, Edinburgh, p. 144, et seq.

pestilential vapors, quickly infects and corrupts the blood, lymph and other fluids, or irritates and contracts, or relaxes and softens the fibres of the heart, arteries or stomach, and other viscera in various ways; or shortly injures, deranges or destroys the origin and energy of the nerves, according to the peculiar nature and power of each."

Quincy's Medical Dictionary, published in 1802, contains some definitions which presumably represent the best information obtainable by the author on the matters in hand. Thus, contagion is defined as "a secreted humor from a living vascular surface of a poisonous quality and capable of exciting a disease like to that by which itself was produced when applied to the living system of a healthy animal of the same species". As examples of contagion he cites the matter of small pox, venereal discharge, measles and the vaccine matter. He denies the power of contagion to yellow fever, ship, jail and hospital fevers, pestilential fevers and the plague, arguing that neither of these diseases "produces in any of its stages a secreted fluid of humor of any kind that can with propriety be called contagion". He divides contagions into two kinds: (1) Poisons produced by the healthy action of vessels, as those of the rattlesnake, viper and spider, and (2) those which are formed in consequence of a morbid condition of the secreting arteries, as those of lues, variola and vaccinia. He confesses his inability to draw a line between them and infection, and notes that the alkaline salts and earths are both capable of overcoming these injurious compounds. Infection is defined as "an unhealthy and poisonous composition formed during the putrefactive process of dead organic matter, particularly that of animals". Infection is said to arise in camps, ships and jails from the collected filth of large numbers of persons. Infected air may also arise from the slime and mud left by a receding stream, vegetable and animal matter in a state of decay being thus exposed to the heat of the sun. "Experiments have shown," he says, "that this kind of air is of an acid quality. And it seems to be the offspring of septon chemically combined with oxygen, and converted into a gas." Septon he announces to be "the principle of putrefaction, or that which peculiarly disposes bodies to corrupt. * * *

It means that material, which, when inherent in bodies, is ever ready to break loose and disorganize the mass; for instance, it abounds in the muscles, skins, and, generally speaking, in the lean parts of animals, or those which are not fat. From these it is ever ready to disengage itself. So loose is its coherence that those parts of animal matter that abound with septon are very prone to spoil. Hence beef, mutton and every kind of flesh which abounds with lean are more apt to become tainted and vitiated than pork, suet and other meats which abound with fat. When septon breaks loose, it often combines with anticrouon or caloric into septic or azotic air.

* * * When it combines with oxygen it forms oxyd and acid of septon. Being capable of associating with a large proportion of oxygen septon frequently exists in the form of septic acid. Hence this acid is one of the most common in the world, and it produces very memorable effects. * * *

Septic acid, produced from nasty and corrupt materials in cities, creates typhus or yellow fever, according to circumstances. In the holds of vessels from similar uncleanness ship fever arises. If arising in prisons it gives rise to the jail distemper. If in armies it is denominated the camp fever. Such and so various are the workings of this noxious agent, septic acid or acid of corruption, composed of septon and oxygen."

Edward N. Bancroft, in his *Gulstonian Lectures* delivered in 1806,* successfully and vigorously contests the proposition of Fordyce that any fever is contagious. He establishes the proposition that a fever strictly contagious cannot be generated by an accumulation of filth or of putrefying or putrid matter. He shows that moisture alone, as in a paludal miasm, is not harmful, but that there must be added to it a foreign element from decaying organic matter in order that it may be productive of disease. He maintains at great length that yellow fever is not contagious, is not due to a specific poison, which will induce that disease and nothing else, and that it is due to a miasm which is identical with that which causes remittent fever.

Finding ourselves now approaching the wonder of the ages

*Bancroft on Fevers, Baltimore, 1821.

in scientific medicine—the development of bacteriology—too recent to be of historic importance, we will pause. The prominent theories of many centuries in reference to the etiology of contagious diseases having been outlined, let us now look back over the ground traversed and draw some conclusions from the facts presented.

We note that etiology has always been obscure, but that it has kept pace with other branches of medicine. It has always borne the imprint of the philosophy of each succeeding era, and has progressed from a purely speculative to a more rational basis, just in proportion as new discoveries in science have made possible a clearer understanding of its various phases. In the earliest times, when all knowledge was crude, and medical science, as we understand the term, had no existence, disease was attributed to the Deity, just as it is to-day among savages. This absence of facts did not, however, hinder the formulation of theories, for so fruitful a field for speculation as to cause and effect could not be neglected by the philosophers of any age. As new facts were gradually brought to light, etiology became less vague, less speculative and more rational. Our etiology of to-day, with its facts based upon observation with instruments of precision, and its deductions made possible by an advanced knowledge of anatomy, physiology, chemistry and pathology, is as far in advance of that of the early Hindoos as our anatomy, based upon dissection, is in advance of their speculative anatomy which framed the human body from a mass of tubes and gases. They reasoned from what they saw; they saw nothing, hence their reasoning was pure abstraction.

The Greeks and Arabs saw more. They recognized blood, phlegm, and bile. They analyzed symptoms and formulated theories in which these facts were incorporated. Just in proportion as facts came in, conjecture went out; but facts such as were needed were not to be had until within a century, and conjecture has been most prominent. In the fifteenth and sixteenth centuries, when printing made possible a wider diffusion of ideas, and when chemistry began to develop with great strides, medical philosophy went with the current and looked for the solution of its problems to the prevailing art.

Alchemy failed, the philosopher's stone was not found, and we see scientific medicine turning back to its only real basis—facts, under the leadership of Sydenham in the seventeenth century. Again we note that with the discovery of the circulation of the blood the peccant humor of contagious diseases was given a new and wider field for action. The formulation of the doctrine of gravitation by Sir Isaac Newton gave medical writers opportunity to look for the cause of disease with the compass and square, and mathematical abstractions and theories of balance, and pressure and relative weight, and mass and density began to invade the philosophy of medicine. Facts multiplied in the eighteenth century, and at the birth of the present there had been formulated theories which explained almost everything on a rational basis. Some honest writers confessed their inability to solve the problem of the remote causes of disease. They had not failed to discern contagion and infection, they recognized the more apparent conditions under which epidemics prevailed, they discovered what was antagonistic to the poison of the pestilence—they went as far as possible without the discovery of bacteria, which they had not the means of studying. Credit must be given them for attaining the limit possible with the means at their command. Bacteriology by its rapid development is now giving new vantage-ground to the study of the etiology of contagious diseases, and suggests possibilities almost without limit. In the study of the life history of bacteria and their effects, direct and remote, we may find explanations for the seemingly capricious actions of contagious diseases, especially of epidemics. We may presently know why the epidemic influenza, which has so lately ravaged the civilized world, makes its visits at such irregular intervals, why one epidemic of cholera, or yellow fever, or scarlatina, or diphtheria, is so much more fatal than another whose accidental circumstances seem to be the same. We notice that in all times filth has been regarded as obnoxious to health, even though the reason was not known, and that cleanliness has always been enjoined as essential to health.

The absence of exact knowledge has not prevented the development of preventive measures. The Hindoos could not

analyze the venom of the viper, but they are said to have had a means of preventing its ill effects. Empedocles knew nothing of the exact agency which caused his native city, Agrigentum, to be depopulated by epidemic disease when the Sirocco blew, but he succeeded in averting the scourge by building a wall of stone across the narrow gorge by which the pestilential wind gained access to the city. He knew not the infectious agent which existed in the stagnant water, but, by diverting the water of two other streams into the course of a third which crept sluggishly through the city of Silenus, and thus making the current rapid, he checked the prevailing pestilence. Correct theories as to etiology, however desirable, are not essential to effective action in lessening the mortality from contagious diseases.

From a review of the errors of the past, let us not be too confident of the correctness of our present attitude.

In discussing Dr. Daggett's paper, Dr. H. S. Fuller of Hartford said:

The history of contagious diseases affords one of the most marked and interesting proofs of the wonderful achievements of the science of medicine. In order to understand this, let us consider in brief, the condition of society in the Middle Ages. The causes of disease being then unknown, all the efforts of the ancients were directed towards the means of preventing, or resisting, the progress of diseases and curing the sick. The ignorance, fanaticism, and fear of the people upon the approach of an epidemic caused the greatest disorder in society; nor can we wonder at this, when nothing seemed to be of avail in staying the progress of an epidemic, and when from a third to a half of the population of their cities were destroyed, not to mention the terrible destruction in the smaller towns. It was then that the plague desolated their countries, that they suffered in only a less degree from small pox, scarlet fever, and malignant sore throat; we cannot forget that even the leading minds were believers in astrology, and the influence of the stars, and laid great stress upon the

conjunction of the planets in producing pestilence. So, too, volcanoes, earthquakes, or unusual atmospheric disturbances, were supposed to be the active agents in causing diseases.

Great changes were wrought in society, where so many people were destroyed, and we are not at all surprised that the science made so little progress; there were few educated men to direct the excited multitude, and consequently nearly everything was done by individual effort. The knowledge of contagious diseases was well known to them, as is shown from the following extract taken from Hecker: "Let it not be supposed that they wanted knowledge respecting the propagation of contagious diseases. On the contrary, they were as well informed on the subject as the moderns; but this was shown where *individual property*, not where human life on the grand scale, was to be protected. Hence the ancients made a general practice of arresting the progress of murrains among cattle, by a separation of the diseased from the healthy. Their herds enjoyed that protection which they held it impossible to extend to human society, because they had no wish to do so."

This is shown by the fact that they adopted means to protect themselves against the advance of diseases. We are surprised to see how their methods so nearly approached in principle, those used at the present day. The idea of disinfection was used by Gentilis of Feligno, a teacher in Perrugia, who died from the plague in 1348. He thought that there was a putrid corruption of the blood in the lungs and heart, occasioned by the pestilential atmosphere, and that it was communicated to the whole body. He advised the purification of the air by making large fires, using for this purpose balsamic woods, which set free a large quantity of odoriferous smoke, and thus, setting free disinfectant fumes, would protect the healthy, as well as relieve the sick; and an appropriate manner of living. Bleeding and purging were further used for the purpose of purifying the blood. Gentilis, and all his intelligent contemporaries, believe in a progressive contagion from country to country, according to the idea of the present day.

In the time of Plato, a knowledge of the malignant nature

of certain inflammations of the eye was well known. Even in the second century of our era, a total separation of the sick from the healthy was ordered by physicians, which shows that they did not lack in knowledge respecting the spread of contagious diseases. And the possibility of protecting whole cities by separation, became gradually more evident; as nations endeavored to protect themselves against the return of this terrible enemy, by an earnest and effectual defense which was put into execution as early as the fourteenth century. In the year 1374, Viscount Bernabo set forth the first regulations for the protection of cities: "every plague-patient was to be taken out of the city into the fields, there to die or to recover."

Those who cared for the sick were to be isolated for ten days.

"The priests were to examine the diseased, and to point out to special commissions the persons infected, under the punishment of the confiscation of their goods, and of being burned alive; and none except those who were appointed for that purpose were to attend plague-patients under penalty of death and confiscation."

Bernabo certainly succeeded in arresting this fearful plague by enforcing this order; for the Black Death assumed a milder form. Whole cities were not effected, it being confined within individual dwellings, as the disease infected only by contact, as in modern times.

Bernabo's example was imitated by others. In 1399 Viscount John issued the following rules:

First—No stranger should be admitted from infected cities, or places, and that the city gates should be strictly guarded.

Second—Infected houses were to be ventilated for at least eight or ten days, and fumigated from noxious vapors by fires, and by fumigations by means of balsamic and aromatic substances.

Third—Straw, rags and the like, were to be burned; and the bedsteads which had been used, set out for four days in the rain or sunshine.

Fourth—No one was to venture to make use of the clothes or the beds out of infected dwellings, unless they had been previously washed, and dried either in the sun or at the fire.

Fifth—The people were likewise to avoid, as long as possible, occupying houses which had been frequented by plague-patients.

Can we read over these health-rules and feel that the older physicians knew less with the means at their command than we do to-day, with our increased advantages? They did not have the advantages of State support, or the concerted action of international congresses, which have so wonderfully managed the spread of epidemic diseases in our day. Still they early endeavored to guard against disease in every manner possible, and we find them as early as the fourteenth century, gradually putting into execution those health regulations which have served as a pattern in our late day; such as, demanding clean bills of health from ships entering their sea ports, or, as in the fifteenth century, establishing the lazaretto, or even the quarantine, or forty days' detention, which was urged, not only on the old theory, but also on theological and legal grounds, which had very great power in the fifteenth century.

The circumspection and ability of some of the older physicians in the treatment of these diseases was remarkable, and the care with which they followed their cases would put some of the modern medical men to blush, if we glance at the teachings of Chalin de Vinario, who expressed himself very sensibly on the indisputable doctrine of contagion, and apologized for those physicians who neglected their duty by denying it. We find many very sound ideas of treatment, also.

These old theories had much to do with the advancement of our late ideas of infection, which are the outcome of the emancipation of medicine from the thralldom of an ignorant and superstitious state of society, as then existed.

We have seen the theories of the famous Latin authors, Varno and Columella, upon a "*contagium vivum*" stand the test of ages, receive the support of Van Leuwenhoek, who, by means of his water microscopes, first discovered micro organisms, gradually developed into the accurate observations of disease germs, in our almost complete and new science of bacteriology.

CONCERNING DIPHTHERIA.

BY J. FRANCES CALEF, M.D., CROMWELL.

There is no question at the present time but that true diphtheria is due to the Klebs-Löffler bacillus, that its toxalbuminose gives rise to all the constitutional symptoms save those produced by the direct mechanical effect of the false membrane. There is no doubt but that the germ propagates very rapidly in the warm, moist cavities of the throat, naso pharynx and nose, when it has once gained a foothold. Phagositic action is without doubt at once established against the germs, but their reproduction is so very rapid in favorable soil that the phagocytes are too often worsted in the unequal conflict. If you prefer, I will put it in another way. There is often a lack of resistance to this disease. I wish to discuss briefly the question of this lack of natural resistance and to determine its cause and treatment. To do so intelligently we must first consider the natural history of the germ we have to contend with. We are as yet ignorant of the natural habitat of this bacillus outside the body, of its stages of development there, and of its reproduction in nature. We do know from artificial propagation how it looks, how it grows in different culture media, what food and temperature it requires for development, how wonderfully rapid its reproduction is under favorable conditions. We know that it does not flourish in acidulated media, that it is readily destroyed by weak solutions of corrosive sublimate and other chemicals, that it does not easily penetrate the unbroken cutaneous and mucous membranes, that it remains innocuous until it finds lodgment in some warm, moist crevice where albuminous liquid pabulum can be found in abundance and whence nature's forces are unable to dislodge it until it has developed into a flourishing colony. We know that those colonies produce an albumi-

nose very poisonous to the animal economy, or as Dr. Sidney Martin has just demonstrated, they produce a ferment which digests the proteids of the body, producing an organic acid and three varieties of albuminose, which in turn produce the pathological changes in the remote organs and the constitutional symptoms. We know that these colonies in the living body are enveloped and covered in by a tough, gray coating of fibrin and epithelium in the condition of coagulation necrosis, adhering closely to the sub-mucous tissue. These may or may not be changed blood and pus in and around this membrane. We know that the germ invades the tonsils, larynx, trachea and larger bronchi, the arches of the soft palate, the uvula, nasopharynx, nose and sometimes the Eustachian tube to the middle ear, and the nasal duct to the conjunctiva. I believe it has never been found in the maxillary or frontal sinuses, nor in the lungs. I have seen one case in which I believed the frontal sinus was largely involved, but autopsy could not be obtained. The very frequent association of a form of crupous pneumonia with this disease in man and its almost constant presence in the rodents, carnivora and herbivora inoculated with pure cultures of this germ, leads to the probability that the bacillus may gain admission to the very infundibula of the lungs. It has been thought that the first visible sign of diphtheria was usually the formation of false membrane upon the tonsils and velum palate. I am convinced that hyperemia and false membrane may frequently be found upon hypertrophied tissue of the pharyngeal vault and on the posterior surface of the velum and uvula, hours before they appear in other locations. I believe this to be the real explanation of many of the insidious and dangerous cases with which all have met. By the merest accident my attention was first drawn to this more than two years ago. I had made an appointment several days ahead to remove adenoids from the nasopharynx of a child six years old. The patient was brought to my office from a distance. When he arrived I observed that he was paler than usual, slightly feverish and complained of slight headache and malaise, but was able after taking a long ride to run around; pulse a little accelerated, tongue nearly normal, tonsils were naturally somewhat enlarged

and now perhaps a little deeper in color than normal, but entirely free (as were all visible parts of the fauces) from patches of any kind. There was no glandular enlargement; no complaint of sore throat; no appreciable change in voice since the week before. Upon inquiry the mother told me that he had vomited once or twice before starting that morning. I curetted away from the pharyngeal vault a large mass of adenoid tissue covered with false membrane, the gross and microscopical appearance of which was clearly diphtheretic. As the child passed through a severe attack of diphtheria, with plenty of false membrane in sight, there could be no doubt as to the diagnosis, although at that time the specific bacillus was unknown to me. Since then I have made it a rule to examine in some way the pharyngeal vault in all suspicious cases and have more than once been rewarded with the material for an early diagnosis. Especially since the firm stand taken by Mr. Lenox Brown in this matter I have in suspicious cases felt justified in curetting the vault when symptoms of adenoids were present and when a satisfactory view could not be obtained, partly as a method of diagnosis, partly as a means of treatment were the disease developing there. I have never yet deemed it necessary to amputate the tonsils when the development of the disease was mostly upon them, although the arguments in favor of the operation seem to me cogent.

However we may class cases of diphtheria, there can be no gainsaying the postulate that the most important factor as regards prophylaxis, prognosis and treatment is the integrity of the tissues which first bear the brunt of the struggle to repel the invaders. In the vast majority of cases this is known to be the mucous membrane and glands of the throat, naso pharynx and nose. In times when diphtheria is rife (and when is it not with us!) it is necessary that these accessible parts should be kept in the best possible condition to perform this very important function. The pharyngeal tonsils should be amputated if habitually large, soft, boggy, and full of relaxed, gaping crypts. Adenoids should be removed and the pharyngeal attic cleaned out. The nose should be kept in condition to secrete normal mucus and to allow free action of

its ciliated epithelium. With these natural repellants in prime working order and no morbid tissue with its crevassed surface and low vitality, it would seem that nature is able to conquer the normad Klebs-Löffler bacilli which may be around seeking for a feeding-and breeding-place in the human economy. Should, however, an unconquerable swarm settle upon a previously healthy mucous surface, mild, frequently repeated local and constitutional means would probably avail, if we seek out and direct our forces against every colony. Should the local treatment be so violent as to destroy the integrity of the healthy tissue contiguous to the false membrane without a very complete removal of the latter, our interference will have done more harm than good. The precept "treat the patient rather than the disease" is of special value in diphtheria, and if possible treat him before he contracts the disease,

Dr. F. W. Wright discussed the subject as follows :

Mr. President :

Within the last four years I have had occasion to deal more or less intimately with a large number of cases of diphtheria and my experience has worked a great change in many ideas I previously had in regard to this disease. I can safely say that either diphtheria is not a very contagious disease or the doctors of New Haven do not make a correct diagnosis of their cases. Possibly mistaken diagnoses are occasionally made, but I cannot think that so many and so skillful doctors as we have are likely to be mistaken time and again.

It is the exception rather than the rule that more than one case occurs in a family or in a locality where its origin can with any degree of certainty be traced to the first case.

While recognizing that different epidemics differ vastly in their malignity, I am inclined to the opinion that diphtheria is contagious only by direct inhalation of the poison from the patient, or if it is carried by the third party, this party must be some one who is in almost constant attendance upon the patient, and that the clothing of this attendant must have been the receptacle of particles of membrane thrown off by

the person suffering from this disease. I do not believe a case beyond doubt ever occurred from defective plumbing, yet I think houses that have such plumbing and houses that are damp and dark are the ones that are conducive to the development of this complaint in any person who has been exposed to its contagion. The great majority of the diphtheria cases that happen in this city are in houses whose sanitary condition can be classed as fair or good rather than bad.

I believe that frequently sporadic cases occur from exposure or more especially from getting the feet wet and that such cases are just as contagious as any other. A little over two years ago there was a severe outbreak of diphtheria in the New Haven County Home. The first case was that of a boy, who, a day or two previous to his being taken sick, was out in the snow without proper covering for his feet. There had been no case of diphtheria at the institution or the school he attended, nor were there any children at the Home, who, as far as we could learn, had been exposed in any way; yet this outbreak was most severe. Out of fifty-three children there were sixteen well-marked cases and as many more doubtful ones. I think that with care, diphtheria can be limited better than any other contagious disease. I, of course, believe nothing can be done without isolation and complete disinfection. In my estimation fumigation is the most practicable and effective means we have at hand. It is not a sure thing, but is sufficient in a majority of cases. When fumigation is practiced the fumes reach every crack and crevice. When we depend upon washes, sprays, rubbing of walls and floors with anything to kill or take up the germs of this disease, there are necessarily many places that may be the hiding-place of some of these germs, that cannot be touched, and consequently the poison still exists. All clothing and articles that can be washed should be soaked in a disinfecting solution and boiled, but articles that cannot be washed and all rooms that have been exposed should be fumigated. I have fumigated after between two and three hundred cases of diphtheria and it has happened in but few instances that there has been a case after the fumigation was properly done. Many burn a little sulphur on a shovel and call that fumigation. It is, but

not the kind that is done when the New Haven Board of Health have it in hand. I do not mean to say that on account of my disbelief in diphtheria being a very contagious disease, that I would recommend any relaxation of care on the part of attendants, but on the contrary I always insist upon the greatest care being taken. It is of the utmost importance that early diagnosis be made and when it is impossible, all suspected cases should be treated as if surely diphtheria. Complete isolation should be practiced, if possible; but unfortunately it is impracticable in a very large number of instances. All articles not absolutely necessary for the care of the sick should be removed and no one allowed in the room but the attendants, and these should not be allowed to mingle in the slightest degree with others. During the course of the disease nothing should be removed from the room that has not been thoroughly soaked in a solution of corrosive sublimate or of carbolic acid, and in addition all articles of clothing should be boiled.

All discharges from mouth or nostrils should be received upon cloths and immediately burned. I do not think it is necessary to destroy clothes or bedding, as it is possible, with fumigation and washing with either of the solutions, to thoroughly disinfect these.

The treatment of diphtheria is so wide and varied that scarcely any two treat alike. It is just as essential to recognize this disease early, in order that we may treat properly, as it is to know what you have to deal with in order to take proper sanitary precautions. I know that diphtheria presents all degrees of severity, but I believe that in all cases the first thing is to begin active stimulation and that this should be kept up until all danger is past, even if there are no signs of heart-failure. Where there is any irritability of the heart, large doses of alcohol must be given, it being usual that even small children can stand large quantities of drugs. I depend almost entirely upon tincture of the chloride of iron. This should be given in large doses and frequently repeated. I sometimes combine chlorate of potassium or ammonium. Of gargles or sprays I depend upon the peroxide of hydrogen in a solution of from twenty to twenty-five per cent. Usually I

have had good results, and where I have not I think it can be laid to the quality of the drug, as Dr. H. E. Smith, in a paper which he lately presented to the New Haven Medical Association, showed that much of the hydrogen peroxide upon the market was inert or nearly so.

The subject was further discussed by Dr. O. T. Osborne, who said :

Dr. Daggett, in his elaborate résumé of old ideas, has left nothing for discussion, but a word as to Dr. Calef's paper. Unquestionably diphtheritic membrane may first appear on parts of the throat other than the tonsils.

I believe that something should be here said as to the differential diagnosis of diphtheria and follicular tonsilitis. I believe that the two diseases should be widely separated, and that we should understand that the one disease is very different from the other. Follicular tonsilitis is an inflammation of the follicles and is accompanied by little exudation.

On the other hand, whenever we have a punctuated membrane it is diphtheria and not follicular tonsilitis. In adults and in children who have previously had diseased tonsils with more or less cicatrices, the diphtheria is apt to be the punctuated form. If we examine the membrane for bacteria and find the Klebs Löffler bacilli, the diagnosis is, of course, diphtheria.

But not finding that bacillus does not prove that we have not possibly a diphtheria of milder type, as Prudden has by his experience with the "streptococcus diphtheriae", opened the question of a possible mild form of diphtheria with the streptococcus as the cause, and a severe diphtheria with the bacillus (Löffler) as its cause.

I was sorry not to hear a list of the contagious diseases given, as I believe that pneumonia and pulmonary tuberculosis should be included in such a list. Pulmonary tubercular patients should most certainly be humanely isolated. I do not mean that they should be ostracised, but that great care should be personally taken by other members of the family.

THE MODERN MEDICAL AND HYGIENIC TREATMENT OF TUBERCULOSIS.

BY CAROLINE R. CONKEY, M.D., WATERBURY.

Mr. President and Colleagues :

An attempt to do more than merely sketch the subject allotted me would encroach upon your time beyond the limits officially set, and even more so upon your patience. I must, therefore, confine myself to what appear to me the most salient facts. And in doing so, I shall discuss mainly the results of practical experience, which are more important than the best theorization.

The subject of tuberculosis is so vast that a discussion of its treatment is necessarily beyond the scope of a short paper. As, however, a consideration of its most typical form, pulmonary tuberculosis covers the essentials, it will be the only one mentioned herein.

The trite saying "prevention is better than cure" cannot as yet be made fully to apply to tuberculosis, heredity being often a factor in its production ; but where the taint is suspected much can be done, and all should be done, to keep the disease latent.

In every case suitable climatic conditions should be sought, and hygienic considerations make an important part of the treatment.

Although this is irrefutable, the question must be seriously considered in recommending a change of climate, whether it would not be cruel to send a patient to die among strangers. This restricts the cases that can be benefited in this way to those in the incipient and stationary stages. Under favorable circumstances progressive cases may be given the chances of improvement in better climatic conditions, when the progress of the disease is slow.

The place selected for the patient must have an equable temperature with slight diurnal variation, and above all the atmosphere must be dry. A warm climate is not only unnecessary, but in many cases its enervating effect is contra-indicated.

Dryness is the essential, provided the climate is such as will allow an open-air life. An Englishman has lately published a book recommending the village of Davos in the Swiss Highlands, as a famous resort for pulmonary complaints. "The winter at Davos is very cold, often from ten to fifteen degrees below zero, Fahrenheit. But the air is so dry that this low temperature is borne even by invalids without discomfort. In fact it is enjoyable, and such an exemption from taking cold do the Davosites possess that one may actually sit for hours in the snow (of course when the sun is out) without incurring the least danger. The snow is never wet, nor in the least damp. It is dry and powdery and does not melt under one."

The process of cure is exceedingly simple. No medicines are given as a rule. All that seems to be required is that the patient shall keep in the open air and take as much exercise as possible. Because of the importance of exercise, Mr. Symonds recommends that sufferers who are very weak should go to Davos some weeks before the setting in of winter. By that means they will acquire strength while the weather is mild, and so be enabled to go out of doors freely when it becomes cold.

A few days of that life-giving air produce marvelous results. Mr. Symonds puts it far above the Riviera, Egypt, and all other health resorts.

The European resorts all entail discomforts in living and travel wearing to the average American, even when in health. On our own continent we have many of deserved reputation, though it is well to premise that no climate will be found suitable for all cases. Those whose physical and financial resources permit travel, should test their progress or otherwise until a desirable locality is found. Some cases improve in the high altitudes and rarified atmosphere of Colorado; others, under the same conditions rapidly become worse, and find a more suitable climate in Aiken, or Summerville, South

Carolina. The latter place is one which I have tested by experience and can recommend without reserve. It has not the dry atmosphere of elevated regions, but it combines all the qualifications necessary for those cases which improve most rapidly in balmy, pine-scented air. The soil is of porous white sand which drains so rapidly that after the heaviest showers the ground is soon dried.

This quality of rapidly draining soil is a prime requisite in resorts of this class. The air is pure, highly oxygenated, and laden with the odors of the pine forests; and it has a wonderfully restorative effect in cases of phthisis in the incipient stages. I prefer it, for such, to any of the other American resorts.

The mountains of Central America are said to offer ideal resorts for cases of even advanced phthisis.

The cities located in the pine-belts, from two thousand to five thousand feet above the sea-level, in a temperature averaging seventy-two degrees the year around, with a diurnal variation rarely exceeding five degrees, combine many advantages not found elsewhere, and patients who could not live in other localities without profuse pulmonary hemorrhages, are said to enjoy apparent good health in the pine zone of Honduras and Guatemala.

As the hygienic treatment of tuberculosis must be varied to suit individual cases, so the list of medicinal weapons against the disease is extremely large, and generalization must of necessity lead to disappointment.

Individualization of the most careful character is requisite; often tentative measures are as necessary as if the diagnosis had not been clearly defined.

Among the remedies that prove valuable are aristol, mercuric bichloride, iodine and potassic iodide, the latter sometimes clearing up large infiltrated regions. The pneumatic cabinet theoretically promises much, but practically it does not yield such satisfactory results as might be demanded for the trouble it gives the patient.

Hydropathic applications may give relief in hectic conditions, when the patient still has sufficient strength to react well, but in advanced tuberculosis can hardly be recommended.

Oxygen, diluted with fifty per cent. of nitrous oxide, in the majority of cases, supplies the patient's demand for air, which the unaided lungs cannot secure. How satisfactory it may prove by calling into action the reserve air-cells, depends entirely upon circumstances. But oxygen is now furnished so cheaply, and is so easy of use, that no excuse for its omission holds good.

In many cases pure wood creosote gives most encouraging results. In my own experience it has been remarkably successful in result. Cough diminishes, and with it the expectoration not only is reduced but more easily discharged. Nutrition improves; weight consequently increases. Night-sweats diminish or disappear. There is augmented strength, and at all events temporary checking of the downward rapid course. The breathing grows less harsh and labored, while the patient becomes more active.

Objective examination shows a reduction, and in some cases a disappearance, of bacilli from the sputum. The urine chemically and microscopically approaches the normal, save as to the characteristic odor due to creosote.

It is alleged that from the use of creosote, infiltrations and even cavities at the apices have undergone marked contraction; but on the contrary it has been asserted that hemoptysis, albuminuria, diarrhea, and other disturbances of the secretory and excretory apparatus are apt to follow the use of creosote. I have not had any such untoward results, nor have they been related to me by any of my colleagues who exercise the careful supervision so essential in the treatment of pulmonary tuberculosis.

During the administration of creosote the urine should be frequently examined, for in it perhaps the first toxic evidence of the drug is found.

When employing creosote it is rarely well to begin with a larger dose than one minim three or four times daily. As tolerance is established, the dose may be gradually increased, and reduced or stopped entirely for a few days, should the slightest prodromata of albuminuria or diarrhea set in.

As before suggested, all medication in tuberculosis must be more or less directed to meeting symptomatic indications as

they arise. The basis of treatment in such a devastating disease must naturally be the checking, as far as possible, of the rapid retrograde metamorphosis. The patient should be fed as much as can be done without levying too great a tax upon his power of assimilation.

It is for this reason that cod liver oil is so valuable an agent in the treatment of tuberculosis as a food rather than a remedy.

Modern refinement which tends sometimes to strongly to elegant pharmacy, has discarded the brownish, unclean cod liver oil, which our parents used. To-day we prescribe the refined amber-colored liquid which pleases the eye.

This is a mistake, for the refining takes from the oil nature's addition of iodine and bromine which act as oxydizing agents, supplying the tissues with that element which the lungs are no longer able to provide in adequate quantity. The unrefined cod liver oil can be tolerated longer with less gastric disturbance, and even with less aversion than the refined article. I would commend to my hearers, the trial for phthisical patients, of a few bottles at ten cents a quart, as made by fish-mongers, and feel confident that the results will be more satisfactory in cases where the oil can be tolerated at all. Cod liver oil meets the condition essential in tuberculosis, of a concentrated, easily digestible, easily assimilated, non irritating food.

Hydrolene, petroleum emulsions, hypophosphites, butter, cream, etc., are all valuable as foods.

Alcohol, too, has justly time-honored repute. It may be classed between food and remedies, and is often a valuable adjunct to both. Retrograde metamorphosis is checked by it; hence it makes available the efforts at nutrition and assists in establishing as much of a balance as possible between it and tissue destruction; by assuaging much of the acute suffering, it acts palliatively as a remedy.

In the past generation students were recommended to keep their phthisical patients "comfortably drunk" but this rule is no longer applied in these days of nicer discrimination and advanced pathology which forbid super-carbonization of a body, which, from the nature of the disease, is never suf-

ficiently oxygenated. Judgment must be exercised in its administration, and the needs of the individual case noted.

Alcohol as an inebriating agent, or rather as a means of assuaging pain and obtaining sleep, is now succeeded by opium or its derivatives.

Codein with whiskey, in which it is soluble, and syrup of wild cherry meets this need very well. When there is digestive debility, strychnia at times gives the necessary stimulus.

The frequently debilitating night-sweats are well controlled by atropine, $\frac{1}{60}$ of a grain at bedtime, or agaricin in $\frac{1}{2}$ grain doses; the latter does not cause dryness of the fauces, which results from the use of atropine.

The latest claimant for favor among the remedies directed against phthisis is guaiacol, whose use is especially urged at present by the Germans

Dr. F. Walzer, of Hamburg, in the *German Medical Weekly*, No. 45, for 1891, recommends benzoyl guaiacol as a substitute for creosote.

This is a combination of benzoic acid with guaiacol, which is an active constituent of creosote.

It is manufactured under the name of "benzosol", and consists of a colorless, almost inodorous, and tasteless crystalline powder.

He begins with two grains thrice daily. It was borne so well that its dose could soon be increased to eight grains four times a day.

The results were identical with those from the use of creosote, viz., alleviation of the cough and reduction of expectoration; diminished febrile reaction and cessation of night-sweats; improvement in appetite and improved general condition.

Walzer recommends administration of the benzoil guaiacol in the shape of pastilles, made with equal parts of cocoa and sugar and sufficient spirits of peppermint to make the mass.

Hölscher and Seifert in the *Berlin Clinical Weekly*, for January 18, 1892, recommend guaiacol carbonate, asserting that its main advantage is in the facility it offers for introduction of very large quantities of the drug. Its action, they

assert, is to render innocuous the effects of the toxins produced by the tubercular bacilli.

The drug merits a fair trial. This paper would be incomplete without at least a brief mention of the prophylaxis of tubercular infection. The infectiousness of the disease has been amply proved by the experiments of Koch, which in their main results have been so full of disappointment to the profession and to the world at large. His assiduously cultured and carefully attenuated tuberculin, as was shown by Virchow, produced most widely disseminated miliary tubercle in the larynx, joints, and even in the spleen, within a few days after a most minute injection prophylactically employed, in a case in which the disease was latent.

If then practically sterilized highly attenuated tubercle can be followed by such disastrous results, must not the crude, live bacilli be far more dangerous? There may be some who still dispute this, yet they must agree that in these days of antiseptic precautions no harm can be done by their rigorous application. The excreta should not be allowed to stand in the sick-room or elsewhere. The sputum particularly should not be permitted to dry, lest the particles should thus be enabled to fly about and carry bacilli to other, perhaps fruitful soil for the disease.

The receptacles for excreta should always be kept flushed with strong mercuric bichloride solution, say one to five hundred or one to one thousand, and these vessels always emptied and thoroughly washed after each use. To dispose of the sputum when the patient has grown too weak to rise in bed, I provide bits of soft linen or muslin about six inches square, which have been previously soaked in a bichloride solution. Each cloth after use is immediately wrapped in paper and burned.

Since dried particles of sputum, not considering other vehicles, can carry the infectious bacilli into every nook and crevice, to the extreme danger of others, the need of exceeding care is evident. During the illness ornamental hangings and all articles not necessary to the patient's comfort, should be removed from the room; bed-linen and all washable garments should be soaked in bichloride solution; and when

death occurs, the clothing used about the patient should be burned. Woodwork and the wooden and metal parts of furniture should be scrubbed in an alkaline solution, and afterwards washed with bichloride and subsequently the room tightly closed, while any possible remaining bacilli are destroyed by sulphurous acid fumes, such as would be employed after diphtheria or scarlatina.

I have striven in this brief paper to give a mere outline of modern literature and of my own personal experience.

If in consequence of any suggestion made, a patient's sufferings may be relieved or life prolonged, my time will not have been spent in vain.

I thank you, Mr. President and colleagues, for your kind attention.

HEART DISEASE AND OTHER COMPLICATIONS OF CHRONIC INTERSTITIAL NEPHRITIS.

BY CHARLES J. FOOTE, M.D., NEW HAVEN.

It is the mark of a complication, as distinguished from an intercurrent disease, that a complication possesses some pathological connection with the primary disease, and is usually the result of it. An intercurrent disease possesses no relation to the primary disease and its connection with that disease is a mere matter of chance. It is of considerable importance to consider the complications of a disease, that we may quickly recognize them when present and prevent their occurrence when absent; or at any rate, if not able to prevent their occurrence, be prepared for the emergencies which may arise.

The complications of chronic Bright's disease require a much more careful study than I can give them, since in them are included such fatal and formidable diseases as apoplexy, edema of the larynx, edema of the lungs, and others, which are often suddenly fatal, and treatment, to be of avail, must be quickly and intelligently applied.

The complications of chronic Bright's disease in its various forms are very numerous, and if you will pardon me, I will simply read over the dry list as it is given by most writers :

Cardiac hypertrophy or degeneration.

Endarteritis.

Apoplexy.

Pericarditis.

Pneumonia.

Emphysema with bronchitis.

Phthisis.

Peritonitis.

Cirrhosis of the liver.

Edema of the lungs.

Edema of the glottis.

Retinitis.

Pleuritis.

Meningitis.

Gastritis.

Regarding the relative frequency of these complications, heart disease and endarteritis are by far the most common. Flint found in twenty-four fatal cases of chronic nephritis a simple cardiac hypertrophy in eleven. Diseases of the serous membranes may perhaps rank next in frequency. Of these diseases pericarditis and pleuritis are the most common, peritonitis and meningitis much less frequent. Regarding other complications, most of them are not common. Apoplexy as a result of chronic Bright's disease is relatively rare. Cirrhosis of the liver occurs in a certain proportion of cases.

Out of all the cases of edema of the larynx, Bright's disease is responsible for only about three per cent. of cases. Albuminuric retinitis is not an uncommon complication and is said to occur in at least sixteen per cent. of cases. (Given as high as thirty per cent. by some writers.)

Grouping the complications according to the pathological process going on in the kidney, we find that cardiac hypertrophy exists both with the interstitial kidney and with the large fatty kidney. It is not, however, found with the amyloid kidney. Apoplexy may occur in all varieties of chronic nephritis, but is much the most frequent with chronic interstitial nephritis. Phthisis occurs only with the amyloid kidney.

Pericarditis, pleuritis, gastritis, emphysema, with chronic bronchitis, all occur chiefly with chronic interstitial nephritis.

Chronic Bright's disease does not seem to predispose to most infectious diseases and consequently does not leave infectious diseases as frequent complications, and in fact, occurs at an age when the ratio of death from infectious diseases is on the decline; but though protection is not demanded against the invasion of most microbes, there is one micrococcus which is apparently an interloper and causes serious trouble. This is the pneumococcus of Frankel.

Thus pneumonia is a not uncommon and exceedingly fatal complication of chronic Bright's disease. This pneumococcus seems to hold not only an etiological relation to pneumonia, but to inflammation of serous membranes as well, being found in fibrinous pleurisy, in peritoneal exudations and in meningitis, and it is a significant fact that all these diseases are complications of chronic Bright's disease. We may say then that patients with chronic Bright's disease are especially susceptible to invasions of this microbe.

Lobular pneumonia in an adult in a large proportion of cases is caused by chronic Bright's disease, and is characterized by the usual symptoms.

It is very evident that to discuss in any adequate way the pathology, diagnosis, prognosis and treatment of these complications, would occupy a large volume and cover a great part of the practice of medicine. All that I shall do, therefore, will be to touch upon the points in diagnosis, prognosis and treatment of the more interesting and common complications.

The most frequent cause of heart-disease, aside from rheumatism, is chronic Bright's disease. An hypertrophied heart is so common in interstitial nephritis as sometimes to be considered a part of the disease, and indeed some writers consider Bright's disease to have its origin in the heart rather than in the kidneys.

I think the weight of authority, however, assigns an hypertrophied heart the place of a complication rather than to a part of the disease and I shall regard it as a complication.

One noticeable feature of the cardiac affections of chronic Bright's disease is the fact that they are not parasitic—such as ulcerative or negative endocarditis, but are either the result of mechanical effects or of malnutrition.

The primary change in the heart of a person affected with Bright's disease is an hypertrophy of the left ventricle; later in the disease a secondary degeneration of the muscular tissue, with a consequent dilatation may occur. These changes present a marked contrast with those which occur in rheumatism. Here the endocardium is usually primarily

affected and valvular lesions result. Clinically the heart of interstitial nephritis presents itself as an enlarged, strongly acting heart, with an accentuation of the aortic second sound and with no signs of a valvular lesion. It has been said that this heart is diagnostic of chronic nephritis, but in basing a diagnosis on this point it must not be forgotten that there are other causes of hypertrophy without valvular lesion, besides interstitial nephritis, such as emphysema and other diseases causing obstruction to the pulmonary circulation. Here, however, the cardiac hypertrophy is in the right ventricle rather than the left and we get an accentuation of the pulmonary second sound, rather than of the aortic second.

I next desire to discuss a clinical fact associated with chronic interstitial nephritis, namely, high arterial tension. A discussion of arterial tension is by no means outside the bounds of the subject assigned me, since the treatment of some of the complications of Bright's disease, such as apoplexy, cardiac hypertrophy and uremia, is largely a treatment of arterial tension. High arterial tension is quite constant in chronic interstitial nephritis before dilatation of the heart occurs, and in fact the absence of tension in chronic interstitial nephritis is a bad prognostic omen. With the large fatty kidney, on the other hand, we often observe a weak, soft, low-tension pulse.

The method of diagnosing high arterial tension is by the cord-like radial artery and incompressible pulse, by the tortuosity and thickening of the temporal arteries, by the accentuation of the aortic second sound and lastly by the sphygmograph. However doubtful the value of the sphygmographic tracing may be as to other points, I think it is generally admitted that it records truthfully arterial tension. The sphygmographic tracing of a pulse of high tension is characterized by the summit of the wave being a horizontal line of some length rather than a point.

The blood-tension in chronic nephritis in the temporal arteries is sometimes so extreme that if we obliterate the blood-current by compressing the artery against the skull, we will still see a full pulsating artery beyond the point of compression, due to the pulsation being communicated from

anastomosing vessels. This condition has only been reported in cases of extreme blood-pressure, especially in chronic nephritis. Sometimes likewise it is impossible to stop the pulsation of the radial beyond the point of compression. These cases of chronic nephritis with only high tension, are especially apt to be associated with albuminuric retinitis. Where the blood-pressure is low in chronic interstitial nephritis we usually have a weak heart and dropsy. There are other causes of high arterial tension besides chronic nephritis and these should not be forgotten, since they also produce an accentuation of the aortic second sound. Gout, lead-poisoning, anemia, pregnancy, constipation, plethora, chronic bronchitis and emphysema all have a tendency to increase arterial tension.

The fact of high arterial tension in chronic nephritis being proved, we often find it difficult to furnish a satisfactory explanation of the cause of the tension. We might say that it would be no loss to leave a study of this matter to the theorists, but, nevertheless, we must have some opinion of its origin in order to satisfactorily treat it. If we have to theorize as to its causes we at least know its effects. We know that high arterial tension is a large factor in the production of apoplexy, of cardiac hypertrophy, and uremia. A knowledge of this fact is a sufficient stimulus for us to study its causes, as thereby we may gain an indication for treatment of apoplexy, cardiac hypertrophy and uremia. It is easy to understand the mechanism of high tension. The condition is really a distension of the arteries with blood and is produced by crowding a too large amount of blood into a too small arterial area. We therefore see that there are two factors to consider, an increased amount of blood and a diminished arterial area. The latter factor, a diminished area, is produced either by a spasm of the muscular coat of the arterioles, preventing a free passage of the blood into the capillaries, or by an endarteritis, characterized by an hyperplasia of the connective tissue of the intima, which gradually contracts and reduces the artery to a mere cord with an obliterated lumen. This pathological condition has been proved to exist in chronic interstitial nephritis, not only in

the malpighian corpuscles of the kidney, but also in the arteries of the brain, lungs, heart, liver and spleen.

The first factor mentioned, i. e., a too large amount of blood in the arteries, is effected either by a too great amount of blood in the system generally, or by the hypertrophied heart crowding blood more rapidly into the arteries than they can disgorge it into the capillaries.

The treatment of high tension is modified according as we attach more or less importance to each of the elements which I have considered, namely, a poison in the blood, a spasm of the muscular coat of the arterioles, an obliterating endarteritis, or a cardiac hypertrophy. If we attach most importance to a crowding of the arterial system with blood, we bleed, or diminish the force of the hypertrophied heart with heart depressants. We may accomplish this with aconite or veratrum viride as was done by Barker in his treatment of puerperal eclampsia. If on the other hand we attach more importance to a spasm of the arterioles, we first try to remove the cause of the spasm, supposed to be some irritating urinary constituent circulating in the blood; therefore we adopt an elimination mode of treatment and use cathartics, diuretics and diaphoretics. We here need to make a distinction between a high tension due to muscular spasm of the arterioles and one due to an obliterating endarteritis. The former is said to be more apt to occur in acute nephritis, the latter in chronic nephritis; the former yields readily to cathartics, while the latter as a rule requires vasodilators. If we attempt to antagonize the effects of the poison in the system by giving vasodilators we use the nitrites.

Regarding the relative value of the above methods of lowering arterial tension, each has its place: in a chronic nephritis heart depressants such as aconite and veratrum which should be used with care. An ice-bag applied to the precordia is a valuable heart depressant and is not subject to the same objections as are brought against aconite and veratrum. Bleeding is efficient in lowering arterial tension, but except in extreme cases it may be replaced by ligature of the extremities.

Of cathartics, diuretics and diaphoretics, cathartics hold the first place, calomel and salines having a powerful effect in

lowering arterial tension, especially when this is due to muscular spasm. Diuretics, most of them, unfortunately increase tension in the process of eliminating the poison, and so to a certain extent counteract their good effect. Spirit of nitrous ether is an exception however. Of the vasodilators, nitroglycerine is most used, though nitrite of sodium is said to have a more permanent effect. Cobalt nitrate has recently been used with success to lower arterial tension in cases where nitroglycerine had failed. Its effects come on from fifteen minutes to an hour after administration and last from three to four hours. An average dose is half a grain every two hours.

It is stated that an efficient method of lowering arterial tension in Bright's disease is a skim-milk diet and large doses of tincture of chloride of iron internally. Ordinarily the tincture of the chloride increases arterial tension, but in chronic nephritis it is said to lower it.

Regarding methods of lowering arterial tension in special cases, as in apoplexy—if an apoplectic attack is threatened, bleeding is indicated in a plethoric person, combined with an ice-bag to the precordia, and a vigorous cathartic. In cases with a tendency to apoplexy it seems doubtful whether it is desirable to lower the arterial tension by giving nitrites. I recall a case of chronic nephritis to which I gave nitroglycerine one one hundredth of a grain four times a day to relieve a dilated heart. The patient had an apoplectic attack while under this treatment, and I have always feared that the nitroglycerine was the cause of the attack.

The hypertrophied heart of chronic nephritis needs no treatment during the stage of hypertrophy unless, perhaps occasionally, doses of cathartics and vasodilators. *Digitatis* should be avoided. But the great danger always menacing an hypertrophied heart is a degeneration, either fatty or sclerotic, of the muscular tissue. This arises chiefly in chronic nephritis from an endarteritis of the coronary arteries, which by their diminished or obliterated caliber furnish an insufficient supply of nourishment to the muscle. Whenever we fear a tendency to a degeneration of this sort, the treatment should be directed first to allaying the arteritis if possible and second to lowering the arterial tension and thus lessening the strain on the

heart. It would certainly be a great gain if we could obtain some drug, such as mercury in syphilitic processes, which would act directly on the arteries and check it, but it seems very doubtful if any drug has this effect, though potassium bromide has been recommended by Jacobi for this purpose. Others recommend potassium iodide. Bartholow recommends chloride of gold and sodium. Perhaps, after all, an elimination treatment of diaphoretics, diuretics and cathartics is most natural, as tending to remove the cause of the arteritis rather than allay the pathological process.

When dilatation of the heart has actually occurred, then the treatment should be perfect rest, digitalis, calomel in small doses, arsenic, iron and strychnine. Bichloride of mercury is used much where any sclerotic process is in progress, and has been tried in cases of cardiac dilatation with some degree of success.

There is one other complication of chronic nephritis, perhaps the most interesting, which is a result of the arterial changes of chronic Bright's disease, as most of its complications are. This is retinitis. The distinctive changes observed in the fundus in a fully developed case of retinitis are the flamelike hemorrhages scattered over the retina, and the small white patches around the macula lutea, with a tendency to an arrangement in radiating lines. The process producing these changes can at least be partially explained. Hemorrhages are common in chronic nephritis; epistaxis is common; purpura and hemorrhage from the intestines and stomach occasionally occur; apoplexy, as we have seen, is a complication. What could be more rational, then, than that an hypertrophied heart, pumping blood into diseased retinal arteries, should result in rupture and hemorrhage. Regarding the white spots in the macula we do not find quite such satisfactory explanations. We may more easily understand it by referring to the degeneration of the heart-muscle, which occurs when we have an endarteritis of the coronary arteries. The condition may possibly be analagous in the macula of the retina, which is the part of the fundus least well supplied with blood. If now we have an obliterating endarteritis of the retinal arteries, cutting off or lessening the blood supply of the fundus, the macula

especially would be the first point to suffer from degenerative changes and hence the white spots. Retinitis is most common with the interstitial kidney, and with the nephritis of pregnancy. A knowledge of the presence of retinitis is of interest to the general practitioner chiefly for purposes of diagnosis and prognosis for vision and for life. It is of value for diagnosis. Albumen may be found in the urine at one time and not at another in interstitial nephritis, but the white patches once formed on the retina always remain and are pathognomonic indications of kidney disease.

As regards prognosis for vision: in cases of moderate severity almost perfect sight is restored, but when the disk suffers severely or retinal disease is excessive, sight improves very little and it may grow worse and the patient become totally blind. Many of the best marked cases of retinitis occur in the albuminuria of pregnancy. The prognosis for sight in many of these cases is good, especially if the symptoms come on late in pregnancy, but occasionally old cases of kidney disease do very badly. It is stated by some writers that when retinitis occurs during or before the seventh month of pregnancy, the patient as a rule becomes blind, and if allowed to go to full term, dies of convulsions.

As regards prognosis for life: retinitis usually occurs during the late stages of nephritis, and consequently gives a grave prognosis. Especially is this the case with the interstitial kidney. The prognosis is less grave with the albuminuria of pregnancy and with scarlatinal nephritis. The duration of life of a case of chronic nephritis dating from the discovery of the retinitis is somewhat as follows: Sixty per cent. die within the first year after the recognition of the retinitis; at the end of two years eighty-five to ninety per cent, are dead; a small percentage of cases live longer than two years.

Read before the New Haven County Medical Association.

HYGIENE.

SCHOOL HYGIENE.

BY F. J. YOUNG, M.D., BRIDGEPORT.

Mr. President and Gentlemen :

Some years ago Prof. Virchow introduced into the medical nomenclature of the world a new term to designate a series of induced diseases arising from the special conditions pertaining to the lives of individuals while in school, which he has very aptly styled "School diseases", a term that it is generally believed he invented, and one which at the present day is universally acknowledged, by the medical profession, to be applicable to a very large and important class of complaints, to which human flesh is not heir, but one from which altogether too large a percentage of our population are suffering from, not only during the period of childhood and adolescence, but in adult life as well.

The general name of "School Diseases" implies that they originate from faulty school life in one way or another, and of course, if such is the case, they belong to the preventable diseases and ought not to be allowed to exist.

A child may be filled full of facts and still its education be of the most imperfect kind. The feat of memorizing in using the encephalon simply as a storehouse, without employing the reasoning powers, is analagous to filling the stomach with aliment which it is impossible for it to digest or for the nutrient system to assimilate.

The powers of growth and development are restricted in every individual, the limitations of which are set by nature and beyond which no amount of training can carry them

Mental forcing cannot go successfully beyond the capacity of the brain taken at its weakest point.

We have at our disposal only a definite amount of energy, which if used in one direction is lost in another. Moreover there is a strong reciprocal dependence between muscular and mental conditions, so that exhaustion of the one implies debility of the other. The connection between "American nervousness" and lack in power of physical endurance, and forced education; between juvenile brain tension, and adult brain, and nerve debility is very close. Education should be physical, mental and moral; the brain not over stimulated at the expense of the body, nor physical training forced in excess of that which may be required for the mutual good of mind and body. Education should be a means for the healthful development of both mind and body, and rest simply there. Precocity ought not to be sought after, for precocious children as a rule in after life fail to realize what is expected of them. There may be occasional instances of unusual congenital smartness, where individuals have been prodigies all their lives, whose capacities for acquiring and assimilating knowledge have been marvelous from the start, in whom extraordinary memory achievements do not imply mental strain; these cases are anomalous ones and do not weaken our argument.

The successful people in the professions and in business, as a rule, are those who have developed slowly, but solidly, who were generally dull students.

To the category of school diseases belongs the almost endless series of neurotic complaints, embracing the various forms of nervous exhaustion, hysteria, insanity, chorea, epilepsy, heart failure, nervous dyspepsia, and kindred affections of the nervous system alone, which comes from faulty school curriculum, originating primarily from general brain strain or from unduly regional brain tension, often materially aided by poor ventilation and poor light.

Those affections which exist in all grades of intensity from the slightest possible deviation from the normal standard to that state of utter helplessness and constant and unendurable suffering which so often result in suicide, when once established in an individual always become a constitutional lesion,

scarcely ever ending life, but entailing upon it permanent and unendurable suffering. Added to this, from the same causes, we have undoubtedly acute inflammations and degenerations of the encephalon, following more immediately as the result of brain strain and terminating speedily in death, or else in chronic hydrocephalus or brain hyperesthesia, hyperemia or brain paresis.

In addition to the large class of diseases arising from brain and nerve origin, we may include many other grave lesions, such as the various forms of visual defects, physical deformities, local congestions, inflammation and weaknesses, mal-nutrition and bad blood.

The integumentary and mucous surfaces, the alimentary, respiratory, genito urinary and circulatory systems may all suffer from unsanitary conditions pertaining to school-life.

The proposition that such a variety of complaints may come from wrongly applied educational means may seem to some to be a rather sweeping one; still when we come to consider that such a large percentage of permanent organic changes in the body are the result: first, of functional derangements induced by unequal or inordinate strain upon some one of the various organs or parts of the system at any stage of life, we must admit that these results must be much more likely to occur from pressure applied to bodies in the formative stage of early life, when the brain and its appendages are soft, the bones more or less cartilaginous, the nervous system extremely impressible, and all of the functions of assimilation and nutrition in the state of their greatest activity.

The statistics lately published by the Pennsylvania State Board of Health go to show that at least thirty per cent. of the deaths of school children in that state are from diseases which are regarded by sanitarians as preventable. * It is not pretended, however, that school abuses are responsible for anything like the total percentage stated of these cases. The social dissipations of the home life doubtless contribute most largely these results; still in view of the fact that faulty school-life is known to be a factor in the production of some of this mortality, the importance of as correct a school hygiene as is attainable, becomes self evident.

The records of the institutions for idiots, and the imbecile schools of this country, show that among the attributable causes of the mental diseases of this class of unfortunates, early forcing of the young brains figures quite prominently, and we have doubtless, every one of us, come across numbers of cases of brain impairment in families which we attend, the production of which has been ascribed, as we have the best of reasons for believing correctly, to this same cause.

Dr. Stearns, Superintendent of the Hartford Insane Hospital, writes me that a large percentage of the insane patients have to thank a school-forcing system for their condition.

Dr. Hallock, Superintendent of Cromwell Hall Hospital for Mental and Nervous Diseases, states that wrong school-hygiene is a very important factor in the production of future insanity and other forms of mental impairment, in this State of which mental inefficiency predominates.

It has been frequently stated by good authority that in early life the human brain reaches its ripeness, on an average, five years later than the other portions of the human frame, and as a consequence it is more tender and susceptible in early life than the other organs.

To quote from a distinguished mental expert, Dr. Chase of Norristown, Pa.:

“The chubby faced infant in the nursery, who passes his waking hours in a ceaseless round of action, kicking, squalling and eating with all his might, is the ideal of physical strength, but his feeble and semi fluid brain grows slowly, as it is needed but little at this stage of automatic life. The brain gets behind in the race until the general growth of the child has advanced somewhat, and self-preservation, and other necessities demand the guidance of its controlling functions.”

* * * * *

“As years creep on, waste exceeds repair, but in early life the process of waste and repair not only strike a balance, but there is a storing of reserve force for the purposes of growth. The surplus power intended for the brain nutrition, growth and building up, cannot be diverted from its legitimate ends without the risk of impaired vitality.”

Says another well known writer: “A brain too early devel-

oped becomes firm and too soon mature so that it always remains a child's brain, wonderful no doubt in a child, but ridiculous in a man or woman."

Forcing when applied to anything is always an extravagant process and a more or less destructive one. It is more fatiguing to run one mile than to walk five miles; to attempt to accomplish in one hour what should occupy several to complete, must necessarily exhaust the organs taking part in the feat; to perform in one year intellectual work that ought to occupy two or three is alike destructive to nerve-tissue and mental stability.

The natural aspirations of the teachers is to have their pupils make as good a showing of progress in their studies at the end of each term and of the school year as possible, in order to gratify the desires of the parents and to obtain the approbation of the school-board.

It is often thus that the over-enthusiastic teacher with the noblest of objects in view becomes the innocent cause of defeating their own aims, by producing precocity of mind and infirmity of body which is sure to be followed by reactionary and permanent enfeeblement of mental power and efficiency. The true object of the teacher should be to secure healthy, strong and well-balanced minds, not strained and over-burdened ones. The true object of an education is to secure sound and healthy minds and bodies, not precocious minds with feeble bodies, from which ultimately must result diseased and withered brains, always of poor quality and handicapped besides by poor powers of physical endurance, which not only affect the individual, but in the succeeding generations is seen, as a consequence of this overtaking, a low mentality and ill-balanced minds. For this reason the rating of the pupils in school by the results of their memory-tax mainly, ought to be by our school-boards, abolished. Industry and deportment should meet with due recognition, but scholarship achievements often imply an amount of brain-strain that cannot be otherwise than disastrous to the mental and physical well-being of the pupil.

The precise amount of time which children of various ages should be compelled to spend in mental work, varies so greatly

with the individual capacities, ages and kinds of labor put before them, the atmosphere, light, tastes and peculiarities as well as the manner in which it is arranged, whether it is continuous or agreeably broken by frequent rests and changes, that it is impossible to fix any exact standard. It is safe to say, however, that pupils should never be kept at a task after it has become perceptibly fatiguing to them. They should never be required to swallow more knowledge than they are able to digest and assimilate.

Very few literary workers are able to devote in continuous mental occupation more than four or five hours a day. Clerks and office-workers and sedentary professional men are unable to endure more than six or seven hours daily of constant occupation at their desks and in their offices.

Children in the primary schools having sessions of five hours per day, ought to have very frequent recesses and diversions. No child under ten years old ought to be made to apply itself for more than a half-hour at a time to any one task. Home study ought to be abandoned for children under fourteen. The habit of having one long forenoon session, from half past eight until one, may require criticism. It should be broken by a long recess at least. The fact that their unaccustomed fast, lasting from breakfast, which occurs at half past six in the morning with the majority, until about half past one in the afternoon, does not bring them good appetites for dinner, furnishes ground for suspicion that their school-life is to blame for such an unnatural phenomenon in some way.

The educational scheme ought to be planned with reference to the intellectual needs, as much as possible, of the individual pupils. Their congenital mental deficiencies ought to be strengthened, and special talents for certain kinds of intellectual work, when discovered by the teachers, might with propriety be recognized, and the cultivation of such be encouraged.

It is doubtless the object of our common school system to afford "the greatest good to the greatest number": at least to secure a moderate and practically useful education for every one. The higher and classical courses are desirable for

all who can give the requisite time, but it does not meet the requirements of the masses who are obliged to begin earning their bread when quite young.

They need to be instructed in a technical way as much as possible in such branches of science as will be of the most practical use to them.

This is comprehended to some extent in the business course of the High School. It ought to be carried still further so as to include preparatory technical instruction for the various mechanical trades. It might with propriety precede the High School course.

A good portion of physics has a bearing upon all kinds of mechanical pursuits, and chemistry, mathematics and drawing upon very many of them. A knowledge of agricultural chemistry would probably insure success to the masses of our Connecticut farmers even.

The principles of personal and domestic hygiene should be taught all of our young people before they leave school, for the rank and file of our population cannot afford to indulge in unnecessary sickness, nor can the community afford such luxuries as the preventable diseases in its midst.

Surely no accomplishment which can be acquired in school can compare with that which will enable a person to keep from getting sick.

Happiness is the chief aim in life.

Happiness means health, always. That happiness should exist in full measure without health is an utter impossibility.

The object of an education is to secure for its recipient *constitutional happiness*, and therefore it becomes apparent that a knowledge of how to preserve the health should take precedence over all other school accomplishments.

Children should be taught the nutritive and economic value of foods—the girls the science of their preparation, and of housewifery in general, as well as the hygiene of dress and the special hygiene which relates to their sex, and the boys the handling of mechanical tools, the care of live-stock and of a garden.

Neurasthenia is a disease which ought to be unknown among young people. Where it occurs as frequently among

the advanced pupils of our public schools, as has been observed by us, we cannot conclude otherwise than that the school curriculum here is to some extent responsible for it.

In my various conversations with practicing physicians, I find that they have uniformly noticed some form or other of nervous disease attributable either wholly or in part to faulty school hygiene, usually in the advanced pupils, manifested by insomnia, headaches, chorea and mental inefficiency.

As bearing upon the hygiene of school-life, though outside of school control, we may briefly allude to the home influences, such as the pursuit of music, painting, dancing, and that class of accomplishments, which together with the attending of fairs, festivals, evening sociables and suppers, interferes seriously with good school-work, by producing nervous and brain strain and robbing the children of the necessary amount of sleep, as a factor in the production of school diseases in very many instances, though it cannot be said to enter into them in all cases where it has occurred.

Undoubtedly the most frequently occurring of all the pathological conditions arising from faulty school-life, are those which are referable to eye-strain which comes from imperfect light, either in quality, quantity or direction, or study in excess, in a bad posture, in a bad atmosphere, or when the system is weakened by disease or general fatigue, or else when the brain or eye is congested or over tired, or when the system is below par in general.

These conditions in early life, when all of the various eye structures are ready to take on permanent changes and relations, tend strongly to the production of the various forms of visual defects, especially if aided by an inherited tendency. These diseases are those of refraction and accommodation mainly, of which we may have all varieties, shortsightedness of course taking the lead: still all the other lesions of this class are not infrequent, as well as inflammations and congestions of the various eye structures and appendages. From these arise in many instances a multitude of reflex neuroses, such as headache, vertigo, nausea, epilepsy, chorea, palpitation, etc.; functional derangements that undermine the general health to a sufficient degree to deserve the especial

attention of our profession as being a fertile cause of sickness that comes within our province to treat.

Some writer has remarked: "One of the most important problems before the American people to-day is that of the eyesight and how to take care of it."

We undoubtedly derive more knowledge of the material world through the medium of our eyes than through any other of our special senses. It is evident then that the more perfect our sight the more perfect our knowledge and the greater our capacity for enjoyment. Persons with defective vision are handicapped throughout their lives. During their child-life they are barred out from participation in the boisterous sports which are the special rights and natural prerogative of the boys, and ought to be of the girls. Therefore they are compelled to lose much in the physical development that comes naturally from athletic games.

A subject of defective vision thus remains physically weak and by nature timid and retiring, probably more studious and fond of his books, because they have to become his world; it makes him hesitating and cautious, in short it affects his whole mental and moral nature to a much greater degree than we are apt to suspect.

The tendency of myopia, and perhaps of nearly all of the congenital visual defects, is to increase somewhat from babyhood up to the age of puberty or a little later, even without the aid of especial aggravating circumstances, but there has been shown by various observers in different countries to be an immense predominance of these troubles among those who have been "brought up" in school, over those who have grown up with a minimum amount of schooling. In the schools of Hanover there were fifteen per cent. of eye defects in the lowest class and ninety-four per cent. in the highest.

Dunnert, who examined one thousand, one hundred and thirty-three of the pupils of the Hyde Park schools, found three per cent. between five and ten years, and thirty per cent. between the ages of fifteen and twenty years, ten times as many.

Agnew examined one thousand, four hundred and ninety-nine students in the New York city schools, finding in the

primary schools ten per cent.; in the high schools sixteen per cent.: in the New York College Introductory School twenty-nine per cent., in the College, Freshman class, forty per cent. and in the Junior class fifty-six per cent.

At the Polytechnic Institute, of Brooklyn, the cases of myopia were ten per cent. in the academic and twenty-eight per cent. in the collegiate department. Conn examined nine thousand, three hundred and forty-four pupils, finding, as have the others, the ratio to increase rapidly as scholars advanced in grades.

We possess abundant proof that the great mass of adults who are troubled with near-sight can lay the blame rightly to eye-strain in school. When we note the striking predominance as borne out by statistics of these defects existing among those who have been the favored recipients of an education over those who have not been subjected to continuous schooling, we are compelled to come to the conclusion that the fault lies in the schools mainly.

This condition of near-sightedness, uniting as it does the influence of inheritance and acquisition, is in danger of becoming a national calamity.

Dr. Risley examined carefully the eyes of two thousand, four hundred and twenty-two pupils of the Philadelphia schools with a view to the detection of all kinds of eye-defects, finding one thousand and eighty-four with faulty vision, and one thousand and ninety-nine suffering from various kinds of eye-troubles clearly attributable to the use of their eyes at their books, in a large percentage of whom the impairment was sufficient, or of such a nature as would make a continuation of the eye-strain perilous to the integrity of the organ.

Erisman found by very extended observations and comparisons that of scholars who had for some length of time studied two hours per day, seventeen per cent. were myopic; those who had studied four hours per day, twenty-nine per cent.; and those who had studied six hours per day, forty per cent. were myopic.

Too much care then cannot be bestowed upon the securing of the best light, appropriate seats and desks, and text-books

printed with clear type of suitable size, properly spaced, with good paper, etc. The light should be admitted from the rear of the pupils always, and over the left shoulder when practicable; the top of the windows should be at such a height that the light shall strike the surface of the desk at as near a right angle as possible. The distance of the book from the eyes should be about fourteen inches. Pupils should always rest their eyes for a short time when they become fatigued by continued close looking. They should not only be allowed to look up from their books but encouraged to do so when necessary.

The amount of aggregate window-space of the rooms, according to our best authority, should equal one-fifth of the floor area. In quality it must not be glaring by reflection from white surfaces of adjacent walls, or from the admission of sunlight directly upon the books. A very light blue tint for the overhead ceiling with some duller color for side walls doubtless modifies the light so as to make it of the best quality for comfort to the eyes.

The habit of placing potted plants in the windows is apt to obstruct the entrance of light to an objectionable degree. Awnings over the windows exposed directly to the sun are very useful. Curtains are vastly more effective when they can be arranged so as to lower or raise the top portion instead of the bottom. Blinds are needless and are often a source of trouble, for they always darken the room vastly more than curtains, in order to be at all effective in excluding the rays of the sun.

Too much foliage in the near proximity of the school building is also undesirable for the double reason that verdure attracts moisture from the atmosphere and prevents the drying of the soil, thereby fostering zymotic and malarial germs; and trees of any size contribute materially to lessen the light in the vicinity by cutting off its horizontal and oblique rays.

The eyes of all pupils in school ought to be tested at regular intervals by some competent person. This could be done by the principals of the schools through means of ordinary test-cards, which should be provided for the purpose, having printed directions on the backs of them. These would enable

them to detect all cases of defective vision, and to refer the cases of abnormal eyes, when found, to an expert oculist.

These results ought to be recorded in a book ruled for the purpose, which should be preserved, so that the visual history of each pupil throughout his school career could be traced and immediate means to intercept eye troubles, when impending, could be adopted.

Scarcely less important than the effects of eye-strain are those of muscle-strain, and the various physical deformities resulting from long continued abnormal positions of pupils, compelled by faulty seats and desks or their own lazy habits of not sitting up straight at their work, or from poor muscular tone resulting from lack of proper physical training.

In selecting our school furniture, the idea seems to have predominated that all the children of one grade ought to possess the same length of legs and body; hence, the seats and desks are usually of uniform height throughout each room, while the children as of old, of corresponding ages and mental advancement, will persist in maintaining their assorted sizes. Each school-room ought, at least, to be provided with furniture adjustable to three sizes of pupils.

Round shoulders and curved spines are the rule with sedentary students. Such symmetrical forms as are observable among the sons and daughters of the rural population, are rare among the city bred youth.

It is unusual to find a lady who has had the advantages of a finished education, as it is termed, preserving a symmetrical chest and shoulders, a normal shaped spinal column and pelvis.

This forcing into wrong anatomical positions and relations, as applicable to either sex, the various internal organs, which must inevitably result from these external and visible distortions, cannot be otherwise than disastrous to the healthy performance of many, at least, of the important physiological processes dependant on the visceral integrity of the body. We are then bound to believe that many permanent pathological conditions of thorax, abdomen and pelvis comes originally from faulty school furniture and irregular muscular development in these subjects while they were school children.

Dr. Seaver, who has examined two thousand three hundred

Yale College students with regard to their bodily symmetry, finds but a small percentage of them possessing bodies of normal proportions. The most prominent causes of which, he claims to be deficient or unbalanced muscular development, due to the lack of properly regulated physical exercise during the time spent by them in the primary and preparatory schools.

Dr. Seaver in his letter to me on this subject says: "He will be a true benefactor of the people who will point out some feasible method by which the boys and girls in our common schools shall be made to 'sit up'."

Among the remaining diseased conditions, of which faulty school influences may be either a predisposing or exciting factor, we may briefly notice catarrhal affections as coming from wrong temperature of the room, or uneven distribution of heat, causing cold extremities; or from draughts to which the pupils may be subjected; or heat that is too dry; or the local irritating effects of dust or gases, that might be prevented by proper heating and ventilating facilities. A practice about which I have heard much complaint from parents, is that of not permitting the children to enter the school-rooms until very near the time of opening, either the morning or afternoon sessions, especially in severe or stormy weather. I have been told that in some of our schools the pupils are not allowed to enter the rooms until five minutes before school time. Doubtless the parents in very many of these instances complained of, are to blame for allowing their children to start too soon from home. I do not pretend that the teachers generally are so thoughtless as represented in this matter; still we do know that this "waiting to be let in" to the rooms has contributed largely to our list of school diseases.

Cystic irritation, cystitis, and hemorrhoids may occur from the habit of children in school, either through compulsion, or voluntarily, of not attending promptly to the calls of nature; or, it may be, as is often the case, through the indecent condition of the closets or out-houses.

Faulty stairs in the building are undoubtably responsible for some of the uterine versions, and prolapses, and a large portion of the leucorrhea, dysmenorrhea and other menstrual disorders found among the older girls and the female teach-

ers, and where there has existed poor muscular development previously, for a serious weakening of the muscles of the back and lower extremities. Where sufficient room can be obtained I can see no reason why our school-buildings should aspire to reach so far heavenward. Two-story buildings are much the best. Utility and complete adaptability to its purposes, ought always to take the precedent over an imposing appearance in plans for school-house construction.

Basement rooms, if well drained and ventilated, with impervious walls and floors, are an advantage to the healthfulness of the buildings; but they should be used for play rooms as little as possible.

There can be no doubt but that contagious and infectious diseases are largely disseminated through the medium of the schools.

The practice requiring that the graver ones should be promptly reported to the health-officer, and all children who would be likely to infect others forbidden to attend school, probably is the full extent to which prophylaxis in these cases can be practically carried.

Overcrowding and poor ventilation by causing concentration of the germs of contagion, and lessening the general vitality of the pupils, without doubt facilitates greatly the prevalence of these diseases.

The parasitic complaints, requiring contact for their extension, find in the double seats opportunities to flourish, multiply, and "carry blessings to many homes".

The most serious problem that confronts us in this line, is the one bearing upon the inoculability of consumption. We know enough of the infectious nature of tubercle to justify the demand that no person suffering from phthisis should, under any circumstances, be permitted to mingle closely with uninfected children.

In the matter of the effects of sewer-gas, bodily emanations from pupils in over-crowded and badly ventilated schools, the miasmatic, zymotic and other exhalations from faulty neighborhoods, they may, for all practicable purposes, be considered together.

Their influence upon the general health is admitted by

everyone. We know that their effects upon the human system are first manifested through the brain and nerve-centers. The listlessness, malaise and mental torpidity, which show themselves so constantly as an accompaniment of the constitutional effects of all the poisons of this class, cannot fail to produce mental dullness and inaptitude. It is not improbable that the school-site alone may have in many instances been the determining cause of a person's ultimate failure or success in the world of intellectual life.

The effects of excess of carbonic acid and of bad air generally, with those of wrong temperature, add to the production of most of the lesions previously mentioned; these and the subject of contagion, are the special province of Dr. Rice in his subject of ventilation and heating, as applied to school-houses. I shall therefore pass them by and but mention briefly the few remaining school lesions that occur to me as worthy of notice.

Nicotine poisoning may be noted as one of them, the prevention of which seems at present as entirely beyond the control of teachers; yet it is nevertheless one of the gravest problems for the American people to solve, how to prevent young people from using tobacco. The habit among boys even now threatens the deterioration of the race.

I cannot refrain from alluding in this paper to one of the outrages to which the boys are subjected in the Bridgeport schools by the peculiar construction of the urinals and closets which I learn are located in one common space, without partitions. In the interest of decency and morality they ought to be constructed so as to violate as little as possible the natural modesty of even small children.

To bring about the radical changes in school management which will need to be done before we can have any approximation to the ideal schools, the community will need to be educated into a better comprehension of the subject of school hygiene, which means especially mental hygiene. Parents must cease their demands for the immediate mental results which must require for their fulfillment an inordinate amount of brain-strain on the part of their children, and school-boards, with whom lies the principal amount of responsibility

for the existence of the greater part of these present evils, will need to be selected with the utmost care, with a view to the especial fitness of each individual member of it for the office. Every person on the board should be a modern practical educator in its widest sense: those who have been successful teachers should have a liberal representation on it, for they alone can understand the peculiar relations that must exist between the teachers and their pupils; the peculiar merits of text-books and many other things pertaining to school-work which can only be understood by those who have had practical experience in schools. Other functions of school-boards requiring a full comprehension of hygienic principles and details which can only come from a medical education and experience, necessitates the almost constant employment of good medical talent, which should be secured by the appointment of a certain number of its members from the ranks of our profession.

The special qualities of eminent respectability and exemplary lives, practical experience as educators, and a thorough knowledge of the science of mental hygiene, together with good business capacity, constitutes the necessary qualifications of an efficient school-board. How to secure such a board as we have pictured in our imagination is a conundrum exceedingly hard to solve, especially in cities where politics alone rule, and the office has to be, as in the case where the nominations are made in the election primaries by acclamation, to a great extent one of political preferment.

In cities that are consolidated with the towns I can see no reason why the school-board should not properly be appointed by the common council in the same manner as the boards for the control of the other branches of the city administration, and with a fair prospect that a better discrimination would be exercised in its selection.

It is from the school-board that the superintendent and teachers are supposed to "take their cue"; at least due deference is, and should be paid to their opinions and prejudices. It is their will that constitutes "the power behind the throne".

Hygiene is bound to be the medicine of the future and prophylaxis the patron saint of our profession.

How much more is to be gained for our race by avoiding now when it is possible, the sins which will be sure to curse our children, than by all the means of relief they can reach.

In order to secure data for the foundation of this paper, a set of questions was formulated and sent to a large number of the practitioners of the state, asking for information regarding the prevalence of school lesions in their respective localities.

The returns received from them comprise the statements of forty-eight different observers, engaged in general practice, selected from those who have had presumably the largest opportunities for observing this class of cases in their respective localities.

The replies from them all so exactly correspond as to render a separate consideration of them for the purposes of this paper, unnecessary.

Of all who have been interrogated, only two have answered all of the questions negatively. Forty have noted disturbances of the nervous system, while fifteen have remarked cases of organic brain-disease, or permanent mental impairment, which they have attributed to early mental forcing. Visual defects and urinary disturbances follow next, having been observed by twenty-three general practitioners in addition to eye troubles vouched for by four eye specialists of the State.

Physical deformities, of which spinal curvature predominates, have been witnessed by eighteen of the physicians consulted, while twenty-one report the production of diseases of nutrition of various kinds, and of the digestive and assimilative system, seventeen; slow carbonic acid poisoning, fourteen; respiratory diseases, fifteen; strumous and tubercular complaints, eleven.

These statements, coming from such reliable sources, demonstrate conclusively that the existence of a great number of school diseases still is not mere hypothesis, and forces us to conclude that it is high time to insist upon the adoption of a new philosophy of teaching, whereby the progress of mental training shall be made subordinate to the physical development of the pupil, and where the science of "mental hygiene" shall be kept constantly in view, as governing all of the educational schemes which are to be projected here and elsewhere.

CAMP HYGIENE.

BY LEONARD B. ALMY, A.B., M.D., NORWICH.

There are camps—and camps, from the bark shanty of the hunter, to the miles long encampment of an army corps, with its thousands of white pyramids, its streets and avenues, its flaunting flags and streaming pennons, its blare of bands and roll of drums, and all the “pomp and circumstance”.

But, as the larger includes the smaller, the principles of camp hygiene are the same, be the camp of one tent or twenty thousand. Therefore the military camp will be our first consideration, and we may, many of us, need to know much about it, in these days of “wars and rumors of wars”.

The popular idea of the chief duty of the military surgeon is associated with the battle-field, or rather in its immediate rear, at the first dressing-station or at the field-hospital; whereas that is one of his only occasional duties, while, during the greater portion of the time, his chief duty is that of “health officer” of the camp. When we realize that for *one* soldier who is killed in battle, there are *two* who are killed by disease, and that for every *one* discharged from the service on account of wounds, there are *three* who are invalided by natural causes, we begin to understand the importance of this portion of the duties of the army surgeon. During our last war, there were killed, in round numbers, about forty-five thousand, and about fifty thousand died of their wounds. In the same time one hundred and ninety thousand died from disease. Those discharged on account of wounds were about fifty thousand—on account of disease, one hundred and forty thousand.

The *prevention* of disease, we see, must be all important, and here never ceasing, untiring vigilance and discipline is

necessary, and, other things being equal, the larger the body of men collected together, the greater the tendency to disease.

Camp hygiene is by no means a new thing. Its principles were known—and carried out—by the Roman legions, and we are guided by the same rules in laying out camps, in the selection of and change in sites, and in the protection of the soldier from injurious influences, that were in use when Rome was master of the world. Later however, all ideas of hygiene, military or otherwise, were lost, and plague and pestilence made sad havoc in the land.

In the brief time which we can devote to the subject it will be necessary to give only the most cursory summary of the points which are the essentials of the hygiene of camp-life. The first, if not the most important, is

THE SITE.

To the quartermaster in charge the requisites for a camp are "*wood, water and grass*". The surgeon insists on "*dryness of soil and neighborhood*", if possible, and in our imaginary camp we can have all these, though in service occasionally we may have to get along temporarily without one or perhaps all of them, on account of military necessity; but not for any length of time without an increase in the sick-rate.

Moist soil induces all forms of catarrhal disease, and favors rheumatism and allied disorders and too often malaria as well. This is more particularly the case if the camp is near marshes overflowed by the tide or the back-water of sluggish rivers. Hence we have the old maxim: "Avoid the neighborhood of marshes, river-bottoms, overflowed land, deep alluvium, lands subject to occasional salt water inundation, and lands, however barren, if there be subjacent water. Grassy surfaces make good camp-grounds; the greater the amount of vegetation above the grass, the more dangerous the site."

Other points have to be considered. In cold weather advantage must be taken of hills and woods as a protection against northerly winds.

If there are prevailing winds the camp must be pitched to the windward of any marshes or other suspicious land. The

influence of a dry and salubrious site for a camp, upon the health of its inhabitants, cannot be over-estimated.

It may be remembered that one of the fevers of our civil war bore the name of a Virginia river.

The question of *over-crowding* is one which has practically settled itself and there is little danger under the existing regulations except in winter camps, when the hut, thirteen feet by seven, should not be allowed to be used by over four men. For a description of the methods of making winter camps, I must refer you to papers whose scope is larger than this.

THE WATER SUPPLY.

The *quantity* of the supply bears chiefly on the question of personal cleanliness, except in those few cases where the supply may be so scanty as to necessitate care in its use. Therefore *quantity* is only an occasional desideratum; *quality* is an absolute necessity, and the purity of the water supply should not be imperiled for any purpose. Deep wells and springs furnish a pure water in general, unless there is inorganic matter in excess. Shallow wells have aqua-malarial possibilities and are liable to any contamination from the soil. Rivers are more dangerous than wells, as the sources of aqua-malarial disease, but are less liable to contamination with animal matter on account of their rapid oxidation and dilution. Surface ponds are unwholesome in all ways. In hot weather, they are more dangerous from evaporation. Snow water has, as a general thing, more or less vegetable impurity; and bears, justly or unjustly, the reputation of being the cause of the so called "mountain fever."

Having obtained a pure supply, every precaution must be taken to preserve it—like Cæsar's wife—above suspicion. The drinking supply should be kept religiously separate and examinations should be made, if any increase in the sick-rate shows a defect in sanitary conditions.

If pure water cannot be obtained, the available supply must be filtered and purified. A simple filter may be made of a keg and a cask; the bottom of the cask having been pierced full of holes. Sand, gravel and charcoal, which have been heated to redness, are placed in the cask and the keg placed on top

and the filtering material banked around it. The keg should have a row of holes in the side near the top. A pipe leads from within the keg, through the cask to the outside. The whole is then sunk in the stream or pond. The water rises through the filter and running into the keg, forms the overflow, and is drawn off for use. The filter should be frequently changed.

In the Ashantee campaign of 1873, the water was purified after Surgeon-Major Gouldsbury's directions as follows, in the absence of proper filters: Alum was added, to precipitate suspended matter. Then it was passed through a filter made of sponge, sand or charcoal in pieces. It was boiled and a few drops of a solution of permanganate of potash added. Water which was taken from a hole in a marsh, was innocuous after this treatment.

The rough quantitative tests in use in the British army are:

(1) Test with a little nitrate of silver solution, and a few drops of dilute nitric acid. Good water should give only a faint haze.

(2) Add a few drops of Nessler's solution. Good water gives no color—a yellow tinge is bad.

(3) Add a little permanganate of potash solution. Good water should remain pink for from ten to fifteen minutes. If the color fades rapidly or becomes brown, the water is bad.

(4) Add some starch solution and a little iodide of potash and a few drops of dilute sulphuric acid. If a blue color appears in a few minutes the water is suspicious.

On the march men should be taught to economize the water in their canteens, and to go upon the principle that they can get no more until the end of the day's journey; therefore "the individual desire of the soldier should give way to the question of the level of water in the canteen."

The matter of food-supply is one which is largely outside the control of the surgeon, who, however, is supposed to inspect the food issued to the men, and refuse that which is unsuitable.

The method of preparing the food is all important, as good food may be made indigestible and poor food made palatable according as the cooking is poor or good.

In the camps of private life, as well as in military camps, one of the prime necessities is a place to cook well ; and an out-of-door range may be made in various ways, all, however, on the same general plan. If wood is plenty, lay down two small logs, about five feet long by six inches through, side by side, so that they will be eight inches apart at the thicker end and five inches apart at the other. Build a fire of small sticks and chips, etc., between the logs and let it burn down to a bed of coals, and the fire is ready to cook with. The coffee-pot goes on the small end and the other things according to their size. If wood is scarce, the range may be made by digging a shallow trench, the same way that the wind is blowing, eight inches deep by from five to eight inches wide, gradually shallowing to six inches deep. Build a chimney about a foot high at the smaller end and make the fire in the trench, covering up the trench with kettles, etc., to make a flue. If the wind changes, block up the trench and cut another, using the same chimney. If the wind changes back again block up the new trench and use the old one. Lack of time forbids me to dwell longer on the commissariat. The prevention of scurvy must be attended to as well by the solitary hunter as the Arctic explorer, and the use of dessicated fruits and acids is well known.

THE DISPOSITION OF WASTE.

In civil life in cities, and smaller aggregations of houses, the question of sewerage is one of vital importance ; and the great sewers of Paris are a source of pride to the nation. Equally important it is for the great and small army-cities to dispose of their refuse, vegetable and animal, where no great sewers carry it miles away under ground.

The sanitary measures in camp are exceedingly simple, but they require the most careful watching to keep them in good working order ; for the slightest error falls with equal force upon the evil-doer and the innocent alike. The unavoidable neglect of sanitation was the cause of the frightful mortality of Andersonville and Belle Isle, while the constant careful inspections of the "officer of the day" and the medical officers keep our military camps comparatively free from disease.

To take care of the surface-water, trenches must be dug around the tents. The vegetable refuse from the kitchens must be carried out of camp by the police-party and then destroyed, preferably by fire, otherwise by burying it. The latrines should be trenches in the ground six feet deep by three to four feet across, with the dirt piled up at the back. A layer of earth three inches deep should be thrown into the trench about nine in the morning and again in the evening. At the end of a week new trenches should be dug and the old ones filled up. The sinks should be one hundred and fifty yards from the tents and if possible to the leeward of them. In the meantime every attention should be paid to keeping the camp itself in a condition of most perfect cleanliness.

I had the pleasure last summer, on several occasions, in making my inspection of our regimental camp, to find not a scrap of refuse of any kind—not even a scrap of paper—in the whole of the fifty thousand square yards, which make up the camp of a regiment. I mention this simply to show what constant care and discipline will do towards keeping a camp clean. As a corollary I might add that our sick list for the entire eight days was less than one per cent. of the entire force.

DRESS, BEDDING, ETC.

In camp *anywhere*, from the tropics to the approach to the poles, the only garment to be worn next the skin should be made of *wool*. This is the unanimous verdict of all campers, be they soldiers or hunters. Wool is the coolest warmest garment that can be worn next the skin. The outside clothing depends upon circumstances, and the varying condition of environment. It may be the blue and gold of the soldier, the buckskin of the backwoodsman or the corduroy knickerbockers and Norfolk of the city sportsman, but under all should be a suit of woolen underwear from the neck to the toes. It is next to impossible for a reasonably healthy man to “catch cold” out of doors thus clad. I think that I have passed through most of the vicissitudes which fall to the lot of one who passes any length of time in the woods. I have

been wet through and through many times, but I have yet to take cold in the woods.

For *Camp Bedding* the weight of opinion is in favor of a sleeping-bag. This is made of various materials depending on the climate which we expect to encounter, but the general form is the same. A bag is made, better double, of blanket, sheepskin, buffalo-robe or what not—six inches longer than the individual and shaped like an old fashioned coffin. A favorite way is to make it of drill, water proofed and lined with whatever may suit one's fancy. It is sewed up except a foot on the right hand side and the top; and may or may not have buttons and button-holes there. When one gets into one of these and pulls the flaps up over his head, he is like the man who crawled into a hole and shut the hole after him. If one turns over, everything turns too. The bed-clothes *can't* be kicked off, but when one wishes to get out he does it like taking off a pair of trousers, only in less time.

I speak feelingly on the subject, but I have used one for the last dozen years in various camps with the thermometer from 20° to 90°, and it is the most comfortable thing that I know of.

In concluding this somewhat desultory paper, let me acknowledge my indebtedness to Major Swords of the United States Army, by whom I have been helped before, to Surgeon-Major Porter of the English Army, and to the sportsman, who is known to many as "Coquina". And may I venture to hope that I may have reminded you that the hygiene of civil life is not so very different from camp hygiene.

CAMP HYGIENE.

BY CHARLES C. GODFREY, M.D., BRIDGEPORT.

Camp hygiene begins with the enlistment of the raw recruit. In standing armies where the examination of men who are about to enter the service is exhaustive, and no one admitted unless he comes up to nearly a perfect standard of physical health, the army surgeon will be relieved of anxiety, as to the importation of disease into his regiment from this cause. But unfortunately the examination of recruits who desire to enter the militia of the various states does not come up to this standard, and men are frequently admitted to membership who are suffering from various forms of communicable disease, or from diseases which render them repugnant to their comrades, or unfit for the duty they are called upon to perform. This is partly due to the difficulty of obtaining enough sound men to keep the company ranks well filled, or carelessness on the part of the examining surgeon, who is insufficiently paid for the work he is supposed to do. The first duty of the surgeon should be to weed out this class of men and recommend their discharge "for the benefit of the service". A command that is physically and morally sound is of prime importance to the thorough hygiene of any camp, and to accomplish this a more thorough examination of men enlisting in our National Guard should be insisted on.

Much has been said as to the amount of room a regiment should occupy in camp. This, however, is not so essential as the number of cubic feet of air-space per man that is allowed him to sleep in. The population per acre in our large cities often exceeds that in our camps, which "give a density of seventeen thousand and twenty men per square mile, when encamped on their full line of battle", an allowance of two

hundred and forty-five square yards for each man, and when condensed to the greatest limit allowed by regulations, each soldier still has seventy-four square yards of space. When, however, we consider the amount of room in which each man has to sleep, we find that instead of dealing with square yards we have to deal with square feet.

The ordinary "A" tent has a ground space of fifty-seven square feet, and contains one hundred and ninety-four and one half cubic feet of air. This is supposed to furnish accommodation for four or six men. In wet weather, when the fibres of the cotton are swollen, and rendered impervious to air, and the sod-cloth prevents any ventilation from beneath the tent, we have about as unsanitary a sleeping compartment as could be devised. In an active campaign the shelter-tents used in the civil war are much to be preferred. Each man carries his half, and is not dependent on the late arrival of baggage-trains before he can pitch his tent for the night. They have the advantage over the bivouac that they afford the men a certain amount of privacy, and also by securing a certain piece of ground, fill him with a sense of having a temporary home, that with his companion he can call his own. As they are open at the ends they secure an abundance of fresh air, and prevent the crowding of men under one canvas. In stormy weather a third man may be added, closing the exposed end of the tent with his piece of duck.

In winter-quarters, in cold climates, the erection of huts will need careful supervision to keep them in a hygienic condition. When built of logs, usually four men unite their shelter tents for a roof. This will allow the construction of an apartment nine feet eight inches by six feet, in which the occupants will be much crowded. It would be a vast improvement for the government to issue larger pieces of canvas to the men, on going into winter-quarters, whereby the size of the huts could be increased, securing in this way more air-space and better ventilation. The huts are to be kept dry, and the canvas roof should be frequently removed to allow fresh air and sunlight to gain access to the compartment. The floors should not be below the surrounding ground, for it will be almost impossible to keep them free from dampness if

they are. The troops are to be prevented from occupying quarters built into a hillside or below ground.

In whatever form of habitation the soldier is to remain, a well-made trench should be constructed around it, for dryness of the soil on which he camps and of the space in which he sleeps, are essential in the prevention of disease.

Much care is needed in the proper selection of a site for a camp. A dry soil with an abundance of pure water, plenty of wood and grass, are essential to a prolonged stay in any one place, and must be selected, if possible, while on the march. Marshy and damp ground, or ground on which vegetation grows very rank and luxurious, are to be rejected, as dangerous to the health of the command. The selection of a suitable site in the presence of the enemy, is, however, not always possible, and the troops may be obliged to dwell in the foulest kind of swamps; while on the march the camp must locate at a place where water is abundant, no matter what the other environments of the camping ground are.

Many of the states have chosen permanent sites for the encampment of their National Guard, and the state of Connecticut is to be congratulated in the selection of an ideal camping-ground at Niantic. A large level tract of land, surrounded on the south and east by the Sound, and to the west by wooded hills, with excellent water and a dry, sandy, grass-covered soil, with the heat of summer tempered by the cool breezes from the water, free from mosquitos or other annoying pests, give to the Connecticut soldier an outing to which he longs to return. The health of the troops at Niantic is truly phenomenal. With an encampment of about two thousand, six hundred men, the amount of sickness and disease is far below the average with the same number in our cities, or that statistics would lead us to expect, and what little sickness there is is largely due to errors in diet.

To insure thorough hygiene the camp-site should be often changed, and with large bodies of troops one week is about the limit that a camp should remain in one place.

Having established a camp, our duty is to see that it is thoroughly policed, and kept in as cleanly a condition as circumstances will permit.

Latrines if possible should be constructed to the leeward of the camp and should be eight feet deep by two feet wide and surrounded by a hedge. A layer of earth is to be thrown in daily, until the trench is nearly filled, when a mound of earth is formed over it to mark its site. A detail known as the police-party, is appointed each day to clean up the grounds and care should be exercised that this is not superficially done. Not only are the company streets and parade-ground to be looked after, but the condition between and under the tents needs careful attention. Soldiers are apt to hide away decomposing material, which would require some trouble for them to remove from the neighborhood of their tents. The bedding, whether of hay, straw or other materials must be dry, to insure which it is to be regularly inspected. The blankets and clothing of the men should be clean, and the former aired every day.

All refuse is to be removed from the camp and should be either burned or buried. No nuisance, however small, is to be allowed to remain on the grounds. During the night more or less urinary secretion will be deposited in the neighborhood of the tents, which will often in hot weather quickly give off ammoniacal odors. It would be well to have some place designated, less distant than the company sinks, where at night urine could be voided and properly disinfected. The personal cleanliness of the soldier is of such importance that it should demand the attention of the surgeon of the regiment. Frequent baths should be insisted on, and those parts of the body subject to chafing should be kept thoroughly clean. The underclothing should be washed often enough to remove the dried perspiration and refuse material it has accumulated, and which tend to keep the body in an unhealthy state.

The food supply of a regiment must not only be sufficient in quantity, but of good quality. The ration in the United States service is about twenty-five and one half ounces of food free from water. This is somewhat lower than the theoretical amount required by a man who undergoes the hardships and exposures of a soldier, thirty ounces being the lowest limit consistent with proper bodily nourishment, under these con-

ditions. Fresh food is to be obtained whenever possible and in order that it may be of good quality it should be thoroughly inspected, and if found in the least tainted is to be destroyed. The sanitation of the camp kitchens requires attention, as does the cooking of the food; insufficiently cooked food, musty flour and heavy breads and pastries being repugnant to camp hygiene and contributing to sickness and disease in the command. The food should be of various kinds and changed as often as circumstances will permit.

The importance of a thorough knowledge and application of sanitary laws cannot be over-estimated. They are as important to the success of an army as are their movements on the field of battle. When we consider that for each man killed on the field, two die of disease, and for every man sent home disabled by wounds, three are returned disabled by sickness, we can partially appreciate the duty and responsibility that devolves upon the medical corps, of using and compelling to be used, every legitimate method that may tend to improve the hygiene conditions of camp life.

CENTENNIAL HISTORY OF THE MIDDLESEX COUNTY MEDICAL ASSOCIATION.

BY MINER C. HAZEN, M.D., HADDAM.

It is proper before considering the history of the Middlesex County Medical Association, which has now completed its centennial year, to glance backward fifty or more years and see the work the pioneers of the profession in Connecticut performed.

New England was settled by the Puritans, and among them the clergy were men of great authority. It would seem they had a monopoly of the culture of the day and were authority in religion, politics and medicine. So it appears that most of the physicians worthy of the name of this period were clergymen. The so-called clerical physicians most distinguished for learning and skill in Middlesex County were Jared Elliot of Killingworth, Phinehas Fiske of Haddam, and Benjamin Gale of Killingworth, though the latter was not by profession a clergyman.

Jared Elliot, D.D., M.D., was born November 7, 1685. His father, John Elliot, was a clergyman in Guilford and his grandfather was John Elliot, the eminent apostle to the Indians. Dr. Elliot was graduated at Yale in 1705, was ordained pastor of the church in Killingworth (now Clinton) to succeed Abraham Pierson, who was the first president of Yale College. Dr. Elliot was learned in history, natural philosophy, botany and mineralogy, and was much interested in agriculture. He was not so much celebrated as a divine as a physician, his principal business being the practice of the healing art. He studied all the authors then known, reading much of the time as he travelled on horseback and was called to minister to the sick in all parts of the colony and sometimes beyond its limits. He was, withal, a man of abounding charity, and though scattering, he increased, and acquired a large

landed estate which laid the foundation of the wealth of his family of eleven children.

His son Samuel was a physician, was graduated at Yale and died on a voyage to Africa for his health in 1741. His son Aaron studied medicine, married Mary, oldest daughter of Rev. William Worthington, first minister of Westbrook, and settled in Killingworth. He had three sons who studied medicine with their brother-in-law, Dr. Benjamin Gale. Dr. Elliot's second child, Hannah, married Dr. Benjamin Gale. Owing to his methodical arrangement of his business and his industry Dr. Elliot was enabled to accomplish very much in his day. He never failed to preach somewhere on the Sabbath during his forty years' pastorate.

Dr. Elliot was cotemporary with Dr. Franklin, with whom he had frequent correspondence on scientific matters. Some of these letters in manuscript are in possession of the Massachusetts Historical Society. Mr. George Elliot of Clinton informs me that their acquaintance began under the following circumstances. Dr. Franklin was often journeying between New York and Boston and made his journeys on horseback by Shore Line road. One day, in passing Dr. Elliot's house in Killingworth, his horse turned up to Dr. Elliot's house in Killingworth, and refused to go on, after much urging. Dr. Elliot noticed the occurrence and went to the door. Dr. Franklin apologized for the intrusion and said his horse was determined to stop and he could not prevail on him to go on. Dr. Elliot said: "The beast shows his wisdom, and remembers where he was well treated. I once was his owner."

On the brown stone slab which marks his resting place in the old Clinton churchyard is this inscription:

"In memory of ye Rev. Jared Eliot, Pastor of the first Church in Killingworth. He was called to the work of the Ministry June 1707 and Ordained to ye Pastoral Office October 1709. He was born 7th Nov. 1685 and Departed this Life 22nd April 1765 in ye 78th year of his Age. Your fathers, where are they and the prophets, do they live Forever?"

Benjamin Gale was born in Goshen, New York, (probably) in 1704, the son of Colonel Samuel and Elizabeth (Worthington) Gale; married the second daughter of Rev. Dr. Jared

Elliot, in Killingworth, where he spent his life in the practice of medicine. Dr. Mathewson says of him: "Dr. Gale built the first story of the stone tavern at Clinton, inside of which was another stone house two stories high, constituting a house within a house, constructed in such a way as to withstand a general conflagration. The upper story of the inner house, it was supposed, was used for anatomical purposes and for study of the Scriptures, on which he wrote largely. He was buried in the cemetery north of the house, at right angles with other graves, so that when he arose he would face his former home."

On the heavy brown stone slab resting upon five heavy pillars of same stone, is the following inscription:

"In memory of Doct. Benjamin Gale Esq. After a Life of usefullness in his Profession and a laborious study of the Prophecies fell asleep May 6th A. D. 1790, Æ 75, fully expecting to rise again under the Messiah and to reign With Him on the Earth."

"And Mrs. Hannah Gale his Consort, Who having obtained A good Report through Faith fell asleep June 27th A. D. 1780 Æ 68. Her children arise and call her blessed. I know that my Redeemer liveth and that he shall stand at the latter Day upon the Earth and mine eyes shall behold. Also in memory of three of their Infants, viz ; Samuel, An Infant Daughter, Benjamin."

Rev. Phinehas Fiske, a cotemporary of Dr. Elliot, was born about 1682, and was the son of Dr. John Fiske, a noted physician of Milford. He was graduated at Yale in 1704. He was a tutor in this institution from 1706 to 1713, and had during this period almost the entire charge of its affairs, as the rector resided in Milford while the college was at Saybrook. He was settled in Haddam and was ordained as colleague of Rev. Mr. Hobart, January 27th, 1714. The town voted "that if Mr. Phinehas Fiske enter upon and continue in the public work and exercise of the ministry in Haddam till providentially and inevitably removed or prevented, for his comfortable settlement, support and maintenance among us we will give him a home lot of six acres and forty acres of land on the neck; twenty acres of timber land and thirty acres from the commons; a right of one hundred and fifty

dollars in all our commons; will build him a house and build him a 'stack of chimneys' with three smoaks below and two above in the chambers, and dig and stone a cellar under one room of the house, and finish the outside of the house wholly and two rooms within,—Mr. Fiske finding all the nails and glass; for his salary for the first year thirty-five pounds, for the second forty-five pounds and increasing thereafter until it amounts to seventy pounds, to be paid in grain or money; also the use of the parsonage lands, and finally one day's work to each year of all the hands and teams in town except the teams distant two and a half miles". He died at the age of fifty-six, after a pastorate of a little less than a quarter of a century, beloved by his people and highly esteemed by all his acquaintance. In the old church-yard is a plain brown stone slab on which is inscribed:

"Here lyeth
the Body of ye
Rev. Mr. Phinehas
Fiske. A learned faithfull
and zealous Minister of
Jesus Christ and pastor of ye
first Church in Haddam.
Who Departed this
Life October ye 17th
1738 Etatis Suae 56."

Dr. Fiske was a noted teacher of medicine, was equal to Dr. Elliot, in the opinion of his biographers, but did not commence the practice of medicine so soon nor live so long.

The Middlesex County Medical Association was formed on the fourth Tuesday of September, 1792, at Middletown, and at the same place the following month, the second Tuesday of the month, the Connecticut Medical Society was organized. When this society was organized there were twenty-two members, and in 1800 the number of members had increased to thirty-two. After the first meeting the names of members present are not recorded until, in 1824, Dr. A. F. Warner, clerk, recorded the names of the fifteen present at that meeting and since then it has been the custom of clerks to give names of members present at each meeting.

In 1816, at a meeting held at the house of John Brainerd, 2nd, in Haddam, the following vote passed: "Voted, that the names of every person who has been a member of this society be entered by the clerk on the first page of this book."

The following fifty-two names are recorded on the first page of Book A. of the Records of this society. The first twenty are names of the original members.

John Osborn	Middletown
Ebenezer Tracy	"
Wm. B. Hall	"
Joseph Strong	"
Jehiel Hoadley	"
Elisha Phelps	Chatham
Jeremiah Bradford	"
Amos Skeelee	"
Robert Usher	"
Hezekiah Brainerd	Haddam
Eleazor Woodruff	"
Smith Clark	"
Christopher Holmes	East Haddam
Thomas Moseley	"
John Ely	Saybrook
Elisha Ely	"
Elisha Mather	"
Zadock Mains	"
Sam'l Redfield	Killingworth
Richard Ely Jr.	"
Benj. Hills	"
Bela Farnham	"

ADMITTED

Gurdon Percival	1793
Augustus Mather	East Haddam
Joseph Arnold	Middletown
Levi Ward	Haddam
Gideon Nobles	Cromwell
Nathaniel Thayer	Durham
Lyman Norton	"
Jonah Cone	East Haddam
Austin Olcott	1796

		ADMITTED
Isaac Smith	Chatham	1798
John Richmond	"	"
Sam'l Field		1800
Gibbons Jewett		1802
William Foot	Durham	1803
Samuel Carter	Saybrook	"
Elisha Ely	"	1805
Joseph R. Andrews		"
Chauncey Andrews	Haddam	"
Josiah Meigs Ward		1806
Alden Carter		"
Gideon A. Dickenson	Saybrook	1810
Jesse Bigelow		1811
William S. Pierson	Durham	1813
Sylvester Buckley	Haddam	"
David Willard	Chester	1814
Thomas Minor	Middletown	"
Jesse D. Wright	Haddam	"
Abner N. Clark		"
William Tully	Middletown	1816
Andrew F. Warner	Haddam	"
Rufus Turner	Killingworth	"

The following is a record of the first meeting of the Society:

At a legal meeting of the physicians and surgeons of the county of Middlesex at the house of Thaddeus Nichol, Innholder, at Middletown on the 4th Tuesday of September, 1792.

Present.

John Osborn	Middletown
Ebenezer Tracy	"
Wm. B. Hall	"
Joseph Strong	"
Jehiel Hoadley	"
Elisha Phelps	Chatham
Jeremiah Bradford	"
Amos Skeele	"
Robert Usher	"

Hezekiah Brainerd	Haddam
Eleazer Woodruff	"
Smith Clark	"
Christopher Holmes	East Haddam
*Thomas Moseley	"
John Ely	Saybrook
Elisha Ely	"
Elisha Mather	"
Zadok Mains	"
Sam'l Redfield	Killingworth
Richard Ely	"
Benjamin Hills	"
Bela Farnham	"
John Osborn, President of the meeting for the ensuing year	
Smith Clark, Clerk	" " " "

Thomas Moseley, John Osborn and John Ely were appointed delegates to the Connecticut Medical Society for the ensuing year.

John Osborn, Elisha Ely and Elisha Phelps were appointed a committee to form By-laws, and Elisha Phelps was appointed to deliver to the Society at their next meeting a Dissertation on the best mode of promoting medical inquiries and science.

This meeting was adjourned to meet at the Court House in Haddam on the first Wednesday of May at ten o'clock in the forenoon.

Meetings were held annually and semi-annually, generally alternating between Middletown and Haddam as according to a vote passed in September, 1796, but the record shows that with the exception of a few meetings held at Middletown, one at the house of Miss Clark, in Petapaug, in 1819, and one at the house of Danforth Clark, in Saybrook, the meetings have been held in Haddam, at the house of William Smith, inn-keeper, Levi Ward, John Brainerd, Samuel R. Brainerd and at other places in Haddam.

The population of the county at this period was about twenty thousand.

* Dr. Moseley's name does not appear in the Record but it is mentioned further on. The omission is no doubt a clerical error.

Middletown, including at this time Cromwell, Middle-	
field and a part of Berlin,	5,000
Haddam,	2,200
East Haddam,	2,800
Killingworth, including Clinton,	2,200
Chatham, including Portland,	3,200
Durham, always an independent town and then a part	
of New Haven County,	1,000
Saybrook, including Chester, Deep River, Essex and	
Westbrook,	3,300

At a meeting at the house of John Brainerd, Haddam, fourth Tuesday of September, 1818, the learned Dr. William Tully was elected clerk, holding only a single year. He has recorded the following :

"Voted to adjourn to the parish of Potapaug in Saybrook to the house of Danforth Clark or to the next nearest tavern or to the meeting house in said parish." This meeting adjourned, not to September as usual, but to the house of David Smith, Haddam, the third Monday in April, 1821. From this time it would appear no semi-annual meetings were held until April, 1844, when it was voted to adjourn to meet the second Thursday in October at the house of Dr. Hutchinson, in Haddam, by his special invitation. The next year a semi-annual meeting was held with Dr. Charles Woodward, in Middletown, fifteen members being present. At this meeting a committee was appointed to prepare a specific order of business for future semi-annual gatherings. Since this time semi-annual meetings have been continued with the same regularity as the annual and sustained by the presence of a full delegation and conducted with as much interest. The semi-annual meetings are held with the different members at their invitation, generally alternately at each end of the county. At the semi-annual meeting with Dr. Fred. W. Shepard, in Essex, in 1846, the following order of proceedings for the semi-annual meetings, reported by a committee consisting of Dr. Charles Woodward and David Harrison, was adopted, and has continued in operation with little change to the present time.

"At the appointed time the chairman of the annual meet-

ing, or in his absence the clerk, or in the absence of both the senior member present, shall call the meeting to order.

“First—Reading minutes of last semi-annual meeting.

“Second—Appointment of committee to report a subject for discussion at the next semi-annual meeting.

“Third—Acting on unfinished business or on new business.

“Fourth—Exhibition of morbid specimens, with relation of the cases and relation of cases where autopsies have been made.

“Fifth—Regular dissertation with remarks upon the same.

“Sixth—Appointment of dissertators for the next semi-annual meeting.

“Seventh—The subject proposed at the preceding semi-annual meeting shall be brought up and the chairman shall call upon each member present to speak his views thereupon.

“Eighth—The relation of cases and general conversation in which it shall be considered the special privilege of younger members to call upon their seniors for the result of their experience on the use of any article of medicine or the treatment of any disease. The semi-annual meetings shall be considered as strictly social and all business dispensed with which can be consistently with the welfare of the society.”

The semi-annual gatherings are generally well attended and matters of professional interest occupy largely the attention of the Society, but this is the time when the social element is encouraged, a good dinner is enjoyed and good fellowship abounds. The happy after dinner emotions of the clerks may be imagined from entries like these: one speaks of the adjournment for dinner as in “accordance with the 7th article in Order of Business and a time honored custom”. Another says, “After a bountiful collation the Society voted its unanimous and stomach-felt thanks.” Still another records more extravagantly that “After dinner and cigars a vote of thanks was offered (to host) and an adjournment taken until some other fellow shall invite us to grace his home and dispose of his blue-points, canvass-backs, south-downs and famous presidential pies”! At the meeting in 1794 it was “Resolved, That a Disputation on Spasm—viz—whether it is the proximate cause of Fevers, be delivered by Drs. Redfield and Clark”. At the next meeting it is recorded, “A Disputation whether

Spasm is the proximate cause of Fevers, exhibited negatively by Dr. Redfield. A Disputation on the properties of Opium—viz—whether it be a stimulant or a sedative, exhibited by Drs. Phelps, Hall and Mains.” In 1816 the following quaint resolution was passed: “That the Chairman nominate three members who shall respectively perform at each succeeding meeting—not excluding any other member from the privilege of performing if he chooses. Drs. Samuel Carter, William Tully and Sylvester Buckley were, agreeably to the above resolution, nominated to perform at the next succeeding meeting.” At the same meeting we read “Three cases of Disease, viz., ulcerous sore throat, Tic Douloureux and uterine irritation were reported by Dr. Carter for the purpose of showing the powerful and salutary effects of *Cicuta*”.

The following relating to the Sabbath we find in the record of 1827. “At a meeting at the house of Capt. John Butler, Haddam, Dr. Carter, who was the chairman, made some remarks on the Dignity of the Medical Profession which led to remarks on a due observance of the Sabbath. Voted that Drs. Cone and Warner be a committee to take the subject into consideration and report to this meeting. The committee reported the following preamble and resolution :

“Whereas the members of this society feel the importance of a strict observance of the Sabbath and an attendance on public worship and regret that they are so often unnecessarily interrupted. Therefore Resolved, unanimously, that we do not consider it our duty to visit patients on the Sabbath unless satisfied that the case is urgent. Voted, that the clerk of this society request the publication of the preceding in the Middletown and New Haven papers.”

The following from the record of April, 1829, shows the stand taken at that early day on Temperance. Thomas Miner, M.D., was chairman and Dr. Richard Warner clerk. “On motion of Dr. Woodward it was Resolved, That the thanks of this society be presented to the clerk for the compliment he has paid to our good sense and correct habits by omitting ardent spirits in providing for our entertainment.” This custom has been adhered to since that time in all the meetings of the Middlesex County Medical Association.

Among the few members who never used the *weed* were Dr. Charles Woodward and Ira Hutchinson. At a semi-annual meeting held in Haddam, by invitation of Dr. Hazen, in 1866, Dr. I. Hutchinson chairman, S. W. Turner clerk, while the magnates were outside enjoying their cigars, the aforesaid gentlemen perpetrated the following joke, which went on the record-book as follows: "After dinner the meeting was called to order by the chairman. Present, Drs. Woodward and Hutchinson. Dr. Woodward was appointed clerk pro tem. Dr. Woodward offered the following resolution: Resolved by this Society, that the use of tobacco in all its forms of chewing, smoking and snuffing is injurious to health and public morals, and especially inconvenient at the stated meetings of our society. *The resolution passed unanimously.*"

The following illustrates the patriotic spirit of the members during the war of the Rebellion. April 25, 1861, it was unanimously Resolved, "That the members of this society present hereby proffer our professional services without charge to the families of such as have or may hereafter volunteer their services in defence of the constitution and union of the United States".

The three names first enrolled as members of the Middlesex County Medical Association, Dr. John Osborn, Ebenezer Tracy and William Brenton Hall, were residents of Middletown and each prominent in the profession. Dr. John Osborn, one of the forty-seven incorporators of the Connecticut Medical Society, its first treasurer, one of the most active men in the formation of the county society and its first chairman, was born in Middletown about 1740. His father, a physician of the same name, was born in Sandwich, Massachusetts, and removed to Middletown about the time of the birth of his son. The senior Dr. Osborn was a graduate of Harvard University, a physician of note and a man of uncommon literary attainments. John Osborn, 2nd, did not possess the advantages for education his father had enjoyed, he having been left an orphan at the age of thirteen. He spent some time in the army in the second French war, studied medicine with Norman Norrison, of Hartford, and by improving his opportunities became learned in all that pertained to his pro-

fession and was an eminent practitioner of his day. His soldier-life perhaps impressed his general temperament. Dr. Mathewson, from whom I shall largely quote in this early history, says of him: "He inherited none of the courtesy and poetry of his father. Though a man of ability and strict integrity he was a man of strong passions, sensitive, bold and fearless." He is remembered as a man of few words, quick wit and generally of a sour mood, a terror to the young, to his family and to his neighbors, not wanting the *fortiter in re* but lacking the *suaviter in modo*. The Osborns, like quite a number of other prominent families in Middletown at that period, were tories, and Dr. Osborn was not careful to keep his sentiments to himself. Captain Pratt, the father-in-law of Dr. Charles Woodward, once ordered him out of his house for saying that "*George Washington ought to be hung*". He had two sons who were physicians. John C. became an eminent physician and professor in New York, possessing the elegant and poetic tastes of his grandfather. A story is told of Dr. Osborn which illustrates his methods of dealing with meddlesome inquirers. On one occasion as he came out to mount his horse after visiting a patient on Washington street, a woman accosted him: "Good morning doctor, how is Mr. —?" "Oh, about so so," replied the doctor. "What's the matter with him, doctor?" "Fever," growled the doctor. "What kind of fever doctor, lung fever?" "No!" "Is it typhus fever, doctor?" "No!" "What kind of fever then has he, doctor?" "Well, madam, I don't know," said Dr. Osborn, "I suppose it is one of those devilish fevers that has no Christian name."

A plain brown stone in Mortimer Cemetery, the name already nearly effaced by the ravages of time, has this inscription:

Erected to the
Memory of
Doct. John Osborn,
born March 24, 1740
died June 7, 1825,
Æ 85.

In contrast with Dr. Osborn was his cotemporary, Dr.

Tracy. He was about twenty years his junior. Ebenezer Tracy was born in Norwich, Nov. 11, 1762. He studied medicine with Dr. Turner and came to Middletown in 1785. He lived first in the house on the spot now known as the John Watkinson place, then in a house standing where the court house now stands, then in a house west of the North Congregational Church, occupied by Dr. Charles Woodward at his death. Dr. Tracy had originally a feeble constitution and at the age of sixteen was thought to be going with consumption, but he lived, generally in the enjoyment of good health, to the advanced age of ninety-four. He was tall, being about six feet in height, bland and courteous in manner and, unlike Dr. Osborn, never spoke ill of anybody; though he was decided in his convictions and adhered firmly to his principles. It is said at one time in consultation with Dr. Osborn over a case the following colloquy occurred between the two savants. It was agreed that the patient, who was Dr. Tracy's, needed a dose of calomel and Dr. Tracy proceeded to weigh it out carefully, as his custom was. Dr. Osborn, looking on, says, "A man is a d——d fool who can't give a dose of calomel without weighing it", to which Dr. Tracy replied, "I think the man more likely to *be* d——d who will give so powerful a drug as calomel without weighing it". Dr. Tracy's practice is said to have been what we call expectant. He is often quoted to this day as saying to his patient when the case was simple, "Take a little pennyroyal tea and you will be better in the morning". An instance of his confidence in his own judgment is related in the case of Henry R. Storrs, a brother of Judge Storrs, who, when a lad, suffered a fracture of the skull. Dr. Nathan Smith, of New Haven, a high authority, was called in consultation and advised trepanning; Dr. Tracy insisted that it was unnecessary and took the responsibility. The patient, who had been rather a dull boy, lost about a teaspoonful of brains by the injury. The recovery was complete and the lad's intellect seemed afterwards much brighter. At all events he was graduated at Yale and was a prominent man. Dr. Tracy had ten children, eight daughters and two sons; one died at five, one at sixteen; the others lived to adult age. One lived to be ninety-nine, one ninety-four and a

surviving daughter, Miss —— Tracy, is living in Middletown in the enjoyment of good health and all her faculties, at the age of eighty-eight. I remember Dr. Tracy as he used to appear on the streets with his staff, a well preserved old man with a kindly face. He was then past his ninetieth year. His last appearance at a semi-annual medical gathering was at Dr. Casey's. He was invited to be present and took part in the discussion of the question "What are the best means of facilitating parturition"? This was nine years previous to his death.

Dr. William Bronton Hall was born in Meriden in 1764, graduated at Yale in 1786 and commenced practice in Middletown in 1790. In 1796 he married Mehitabel, the sixth daughter of General Samuel Holden Parsons, the head of a notable family in Revolutionary times. Dr. Hall made a specialty of surgery and was a practitioner of high repute in his day, learned and celebrated as a teacher of medicine and active in the state and county societies. He was Treasurer of the State Society from 1799 to 1809, the date of his death. His heroic professional conduct in attending cases of yellow fever at Knowles' Landing, in Middle Haddam, is related by Dr. William Tully as follows: "The brig Polly arrived from Cape St. Nicholas Mole. On her homeward passage one of the crew by the name of Tupper, died on board, of yellow fever; the clothes which he wore were thrown overboard, though a sail on which he had lain when he died was retained. On the arrival of the brig at this landing, Hurd and Ranney were employed to assist in cleaning her out. They were known to handle the sail on which Tupper died. At the same time Sarah Eaton and Elizabeth Cook were employed in washing some of the sailors' clothes. A few days after, these persons were attacked with yellow fever. In five days Hurd died and within twelve hours, Ranney and Sarah Eaton. The alarm in the village was already so great that Sarah Eaton was left alone in the night and was found dead in the morning with her infant child at her breast. The whole village was panic struck. After the first three deaths Dr. Bradford, an old physician resident of the place, and Drs. Hollister and Thacher, two young men, precipitately departed and did not

return until all traces of the disease had disappeared. About two hundred of their employers followed their example. Only five persons had firmness and humanity sufficient to remain to take care of the sick and bury the dead. The physicians who attended the latter cases were Dr. William B. Hall, of Middletown, and Dr. John Richmond, of a neighboring parish, (Middle Haddam). From this single vessel originated eleven cases of yellow fever in the town of Chatham, nine of which proved fatal."

"Dr. Hall was noted for hospitality; his house was a great center for the profession in the neighboring towns. His side-board was exceptionally free. On his last attempt to visit a patient he fell from his horse before leaving his yard; he was taken to his bed and died, aged forty-five."

Dr. John Ely, an eminent physician and military man of note in Revolutionary times, was born in Lyme in 1737. Like his cotemporaries, Dr. Osborn and Dr. Hall, of Middletown, and Dr. Hezekiah Brainerd, of Haddam, he exerted himself to remove the prejudices against inoculation and established hospitals, or, as they were commonly called at that time, "pock-houses", for the retention and treatment of those willing to submit to this preventive treatment. He had two hospitals on Duck Island, off Westbrook, which he used for this purpose. Dr. Ely married a daughter of Rev. William Worthington, of Westbrook, then a parish of Saybrook bearing the name of Pachong. Here he established himself in practice until the breaking out of the war of the Revolution, when with patriotic ardor he became actively engaged in the great struggle. As early as 1775 he mustered and marched with a company of militia to Roxbury, under his command. In 1776 he performed duty as Major at Fort Trumbull, New London; also officiating as Physician and Surgeon. In July of that year he was sent to visit the northern army to employ his skill in arresting the small pox which was then raging in the camp with great violence. In 1777 he was again commandant of Fort Trumbull with the rank of Colonel, his regiment having been raised by his own exertions and largely fitted out at his own private expense, he being at this time a man of abundant means. On the ninth of December, 1777,

he was captured by the British and paroled at Flatbush, L. I., with many other prisoners, privates and officers of the army. Among these a distressing sickness prevailed and Dr. Ely devoted his time and skill in caring for them. In so doing he had to travel long distances and endured great hardship and exposure, being obliged to procure his own conveyance for travel and often purchase medicine for the sick. While confined here his son, in conjunction with other friends, fitted out a vessel and manned her for the purpose of surprising a British force, with which to effect the exchange of Colonel Ely. They succeeded in this so far as the capture was concerned, but by reason of the entreaties of his sick brother officers, who considered their lives greatly depending upon him, he was induced to forego the right to exchange and consented to remain for their comfort and safety. He remained here until December 25, 1780, a period of three years, when he was released. Returning to his family in 1781 he found himself broken in health, his large estate run to waste and a considerable debt accumulated against him. With good courage he again in earnest set himself to the practice of his profession. It is said* "He rose early in the morning, cut his wood, built the fires, fed his cattle and then went forth upon his professional duties". By his efforts and the strictest economy he partially recovered from his financial difficulties, but his health giving way he applied to Congress for remuneration. General Knox, then Secretary of War, made a highly favorable report and the House of Representatives passed a bill granting him twenty thousand dollars. His claim was thrown out by the Senate on account of the opposition of Oliver Ellsworth, who was opposed to all money grants, and the bill was consequently defeated. His sense of the injustice and the neglect of his country in refusing aid in his extremity disheartened him from further effort and he died October 3, 1800.† About forty years later his sons presented again his claim and a small portion of it was allowed.

*S. G. Goodrich, his grandson.

†In the old churchyard at Westbrook, on a plain slab, is this inscription: Here lies the remains of Col. John Ely, who died Oct. 3rd, 1800, in the 61st year of his age.

Colonel Ely was tall, erect and of a manner marked with dignity and ease. As a commander he was the idol of the soldiery and uniting to his military office the skill and practice of the physician, with a tenderness for humanity which knew no weariness, he acquired a love and friendship from his comrades such as few men enjoy. Two of his sons followed their father's profession. William practiced at New Baltimore, on the Hudson, and John (who was also a member of Congress) at Coxsackie, N. Y. Three of his daughters also married physicians. Ethlinda was the wife of Dr. William Elliot, of Goshen, New York. Amy was the wife of Dr. Cowles and Lucretia the wife of Dr. Gregory, of Sand Lake, New York.

Dr. Robert Usher was born on the passage from Medford, Massachusetts, to his Connecticut home, January 3, 1743. He was one of the original members of this Society. His mother was the sister of Aaron Cleveland, poet and preacher, who was born in Haddam in 1741 and was the great-grandfather of Ex-President Cleveland. Dr. Usher studied medicine with Dr. Jonathan Huntington, of Windham, and commenced practice before he was of age in Westchester, in the town of Chatham. Upon the breaking out of the Revolutionary war he joined the patriot army as a private and was at the battle of Bunker Hill. He was commissioned as colonel in General James Wadsworth's regiment at Cambridge, December 29, 1776. Like Dr. Ely he was the owner of a large farm and it is said worked, building stone-wall with his boys by moonlight and practiced medicine by daylight. He is said to have harvested in one day forty acres of wheat. He was noted for his hospitality, was a man of character and influence and had a large practice. He died March 27, 1820.

*"Richard Ely was born in North Madison, where his father, a clergyman of the same name, was settled as a minister. He was graduated at Yale in 1765, studied medicine with Dr. John Noyes, of Lyme, who certified as follows:

"*To all people to whom these lines shall come, GREETING:*

"Whereas, Dr. Richard Ely, of Saybrook, hath been liberally educated and been a student with me in the theory and

*Dr. Mathewson.

practice of medicines and surgery, and, whereas, said Ely hath made great improvement in the art of physics and surgery, he is well qualified for a practitioner in said arts. I do therefore recommend him as a safe, judicious and able physician, and well qualified to practice.

“‘LYME, June 9, 1786.’

JOHN NOYES.

“Dr. Ely commenced practice in Killingworth, where he remained four years, when he removed to Wilbraham, Massachusetts. He remained there about a year, when he returned to Pantopang, now Centre Brook, where his father was then settled. He remained there until 1805, when he removed to Chester. He received the honorary degree of M.D. from Yale College. He was the Treasurer of the State Society at his death, was an active member of the society and shared the confidence and respect of the public and the profession in a large degree.”

Hezekiah Brainerd, for many years a prominent physician in the county, was born in Haddam, October 26, 1708. His ancestors were very eminent; among them were many devout ministers, scholars, statesmen and physicians. His father, Colonel Hezekiah Brainerd, was a man of education and distinction, a deacon of the church, a representative to the General Assembly and a justice of the peace. His mother, Mary Fiske Brainerd, was the daughter of Phinehas Fiske, the eminent physician and divine. David Brainerd, the missionary, was his uncle. Dr. Thomas Minor, Senior, of Middletown, was his nephew. Dr. Brainerd studied medicine with Dr. Benjamin Gale, of Killingworth, now Clinton. As an inoculator of small pox he became well known. He had a pock-house about a mile west of his residence in the edge of the woods, some relics of which are seen at the present day. I have heard the aged people of thirty years ago tell of the time they spent in exile at this hospital while receiving what was then the only protection against this fearful disease. From their account they did not have such a gloomy time but a good deal of fun was enjoyed. Only a few were seriously sick.

Dr. Brainerd was appointed judge of the Court of Common Pleas in 1795 and discharged the duties of this office for ten

years, when he was laid aside by a paralytic affection and died July 16, 1805, aged sixty-three. His son Hezekiah was graduated at Yale in 1793, receiving one of the highest honors of his class, studied law, but died at an early age of consumption, as did his two sisters. Leaving no issue, this family became extinct.

*Dr. Gideon Noble, a native of Coventry, probably practiced in Cromwell from 1791 to 1802, when he removed to South Glastonbury. He had a good education, pleasing manners and acquired a respectable practice in both places. He died in 1807.

*Dr. A. Ward practiced in Middlefield several years. He died August 12, 1788, aged thirty-two years.

*Jehiel Hoadley, Yale, 1768, was born in Northfield. He practiced in Middlefield. He made a specialty of curing colic. Governor Hoadley, of Ohio, was a descendant of the family to which Dr. Hoadley belonged.

*Dr. Jeremiah Bradford settled in Middle Haddam in 1754 and practiced until 1814, when he was eighty years old. He was a man of good sense and an able practitioner, but much of a coward. (See account of yellow fever at Middle Haddam, by Dr. Tully.)

*Dr. Joshua Arnold, a brother of Dr. John Arnold, of Middletown, studied with Dr. Phinehas Fiske in Haddam in 1738. He died in 1753, aged sixty-six years.

Thomas Moseley, son of Abner Mosely, of Glastonbury, was born February 12, 1731, and died August 11, 1811, at the age of eighty. He was graduated at Yale College in 1751 and settled in East Haddam. For his first wife he married Phoebe Ogden, a daughter of Governor Jonathan Ogden, of Elizabethtown, N. J., and for his second wife a daughter of Governor Mathew Griswold, of Connecticut. He had but one child (by his first wife) Jona Ogden, who became eminent, was a graduate at Yale, a lawyer by profession and for twenty years a member of Congress. Dr. Moseley was one of the original members of this Society, one of the first Fellows to the State Society and was re-elected every year until his death. He was made Doctor of Physic by authority of the Connecti-

*Dr. Mathewson.

cut Medical Society in 1795, and was its president in 1803 and several years afterwards. He was a physician of high repute in his day.

Dr. Augustus Mather, who practiced in East Haddam, was a cotemporary of Dr. Thomas Moseley, and a brother of Drs. Elisha and Samuel Mather.

Dr. Smith Clark was born in Maromas, Middletown, was graduated at Yale in 1786, where he was a classmate of Dr. W. B. Hall. He studied medicine with and lived in the family of Dr. Hezekiah Brainerd for many years and succeeded him in practice. Dr. Clark was one of the original members of the State and County Societies. He was the clerk of this Society from its inception until 1846, for fourteen years was, apparently, present at every meeting and was an excellent scribe. He seems to have been an active member of both societies, was often elected a fellow, and was highly esteemed by his professional brothers. He never married, though he had one son by his housekeeper who took his name, was educated by him at Yale College and became a lawyer, to whom he gave his property. Dr. Clark is remembered by some of our old people and is spoken of as a man of short stature, dignified bearing, a faithful, kind and skillful physician, and held in high regard by the people. A marble slab in the old churchyard at Haddam Centre is inscribed as follows:

S. C.

Smith Clark, Esq.

Born March 8, 1766 and

deceased June 9, 1813

A E, 47.

Christopher Holmes was the fourteenth and youngest child of Deacon Holmes (who officiated as deacon of the Congregational Church in Hadlyme over forty years) and Sarah (Andrews) Holmes, and was born in 1762 and died in 1812. He is said to have been "fully an average physician, though it was his custom to prescribe 'Hull's Physic' for nearly all his patients and to let plenty of blood". He had a large practice. He was one of the original members of this society.

Dr. Benjamin Hill, it is said, studied medicine with Dr. Benjamin Gale. He married Hannah Nettleton, of Killing-

worth, and practiced at that place with acceptance until his removal to western New York, about 1823.

Dr. John Richmond was born in Brookfield, Massachusetts, studied medicine with Dr. Timothy Hall, of East Hartford. He practiced in East Hampton from 1792 until his death in 1821. His heroic professional conduct in attending cases of yellow fever with Dr. William B. Hall has already been told. Dr. A. B. Worthington tells the following story: "I once heard an old lady say that Dr. Richmond started for Middle Haddam to buy a pig and as her husband owed Dr. Richmond he stopped to collect the money in order that he might have sufficient money to buy the pig. Her husband was not at home and had left nothing smaller than a ten dollar bill and as they could not make the change Dr. Richmond took the bill expecting to call on his return and leave the change, but before he got the pig a messenger took him to attend an obstetrical case at Westchester, where the Doctor died of apoplexy at the bedside of his patient, who also died. Mrs. Bailey lost her ten dollars, as she had to pay the administrator the bill for medical attendance."

Samuel Redfield, son of Dr. John R. and Amanda (Russell) Redfield, was born at Guilford, September 12, 1762, served as a fifer in the war of the Revolution, after which he studied medicine with his father and with Dr. Benjamin Gale, of Killingworth. After practicing twelve years in Killingworth, now Clinton, he removed to Fairfield, New York, and afterwards to Perrysburg, where he died in 1837, aged seventy-five years.

*Dr. Isaac Smith, son of Deacon Isaac, of East Hampton, studied medicine with Dr. William B. Hall, of Middletown, practiced a few years in Killingworth, removed to Portland, where he practiced about forty years. He died in 1839, at the age of sixty-seven.

*Dr. Amos Skeelee (or Skeels) was a native of Woodbury and a soldier of the Revolution, and in the battle of White Plains was wounded in the right arm while pursuing the English in their retreat from Danbury; being in consequence unfitted for labor he turned his attention to medicine. He commenced practice in Hampton in 1783, removed to Middle Haddam in

*Dr. Mathewson.

1787, to Somers in 1795 and afterwards to Chicopee, Massachusetts. He died in 1843, aged ninety-three years.

Dr. Asa L. Spaulding, of Killingly, studied medicine with Dr. North, of Hartford, and received his degree of M.D. from Yale in 1832. He succeeded Dr. Huntington and in 1839 removed to Enfield, where he died of typhoid fever in 1864. Dr. E. B. Nye succeeded Dr. Spaulding. Dr. Spaulding was admitted to membership in this society in 1835.

*Dr. Austin Olcott was admitted a member of Middlesex County Medical Society in 1796, from Clinton. He was then only twenty years of age. He was the son of Surgeon George Olcott, a veteran of the Revolutionary army, who died at Weathersfield in 1814.

Dr. Austin Olcott stood high in his profession and had a large practice. The second case of the tying the external iliac artery was performed by Nathan Smith on a patient of his. The diagnosis and subsequent treatment was by Dr. Olcott. The patient lived thirty-six years afterward, enjoying perfect health. Dr. Olcott, though a man of good habits, failed to collect his bills, and at his death was in destitute circumstances. He died in 1843, aged sixty-three.

Henry Woodward was the son of Dr. Samuel Woodward and was born in Torrington in 1795. Dr. Samuel B. Woodward, then of Weathersfield, afterwards of Worcester, and Dr. Charles Woodward, of Middletown, were his brothers. Dr. Henry studied with his father and elder brother and after practicing medicine a short time in Weathersfield he removed to Middletown, where he had a large practice. He was twice a representative from Middletown to the Legislature. He is spoken of as a man of active benevolence, gave much in charity, was zealous in all great moral enterprises and an active member of the Episcopal Church. He was cut down in the midst of life by pulmonary consumption at the age of thirty-seven.

*Dr. Elisha Ely was born in Lyme in 1748. He was half brother of Dr. John Ely, with whom he is supposed to have studied his profession. He practiced in Old Saybrook.

*Dr. Samuel Carter, son of Benjamin and Phebe (Bud)

*Dr. Mathewson.

Carter, was born in Killingworth, July 10, 1779. He studied medicine with Dr. Austin Olcott and commenced practice in Saybrook in September, 1802. After practicing in Saybrook for a third of a century he removed to Vernon, New York, and died in 1853, aged seventy-four. He was buried in Saybrook.

Dr. Elisha Mather was a son and student of Dr. Eleazer Mather, of Lyme, (Yale 1738) and brother of Dr. Samuel, his father's successor in business, and a brother of Dr. Augustus Mather, who practiced in East Haddam. He married Elizabeth Selden, of Lyme, and located at Pantapaug, now Centrebroom, where he spent his whole professional life and died in 1836, aged eighty-one. Four of his seven children were sons and all studied medicine.

Dr. William Seward Pierson, son of a descendant of the first President of Yale College, was born in Killingworth, graduated at Yale in 1808, studied medicine with Dr. Nathan Smith at Dartmouth, where he took his medical degree in 1813. He came to Durham on a formal invitation of the citizens, as was the custom in those days, after the death of Dr. Norton. He remained four years and then receiving a call from the people of Windsor, he removed there. He died in 1860.

Richard Mayo Smith was born in Chaplin, studied medicine with Dr. John Richmond, whom he succeeded in practice in East Hampton, after which he lived but a single year, dying at the age of twenty-six.

Dr. Charles Smith, the son of Colonel Chester Smith was the successor of Dr. R. M. Smith. He was born in North Stonington, studied medicine with Dr. E. B. Downing of Preston City. He died in Middle Haddam in 1848, at the age of forty-seven.

Dr. Winslow T. Huntington was a member of the Society, in 1833 and 1834. He left the state in 1835. He was born in Bozrah, was a student of Earl Knight, was graduated at Pittsfield and practiced three years in East Haddam.

Jesse D. Wright was the successor of Dr. Levi Ward and practiced in Higganum. He was admitted to this Society in 1813.

Dr. Levi Ward practiced several years in Higganum and removed from there to Rochester, New York, in the early set-

tlement of that city, purchased some real estate there and became quite wealthy. He died at a good old age. He was a man highly respected and very useful in his day in the new society he helped to mould. He was clerk of this Society from 1803 to 1806 and probably removed to Rochester at this latter date.

Dr. Rufus Turner was born at Mansfield, Connecticut, September 1, 1790, studied medicine with Dr. Joseph Palmer of Ashfield, and at Yale College. He commenced practice in 1814 at Killingworth, where he died in 1851. His death is said to have been hastened by his arduous labors and the long rides over the rough country in this region. He was a good practitioner, active in promoting educational interests, was identified early with the temperance and anti-slavery cause, and in all religious and philanthropic movements took a deep interest. His son, Dr. Sylvester W. Turner of Chester, a well known and highly respected physician, received his mantle.

William Foote was born in Northford, received a good education, studied medicine with his two brothers, Dr. Isaac of Monticello, New York, and Dr. Malica Foote of Rye, New York, and with Dr. Benjamin Rockwell of New York. He came to Durham in 1802, removed to Goshen in 1807, where he remained two years and returned to Durham. He was a short time in New Jersey and during a prevalent and severe epidemic of dysentery, known then as "relax", became accustomed to the habitual use of opium which he continued until his death, which occurred in 1842. He was considered a well-read physician in his day. He died at the age of sixty-two.

Sylvester Buckley was born in Rocky Hill in 1789, prepared for college under Rev. Dr. Chapin of that town, was graduated at Yale in 1810. He took his medical degree at Dartmouth in 1812, began practicing his profession in Haddam in 1813, where he remained eight years, removed to Chester, where he remained a short time, and returned to Haddam, where he was in professional connection with Dr. Munger. He soon after removed to Cromwell, where he remained twelve years. He afterwards located at Berlin, and in 1848 he returned to his native place, where he continued in practice until his death, January 27, 1857.

He is estimated by his biographer and cotemporary Dr. R. W. Griswold, as an upright, honest man of high moral character, who enjoyed the esteem of his fellow-citizens, and after serving faithfully and well as a physician and a man his day and generation, entered into rest at the age of seventy.

* Dr. Benjamin L. Fowler was born in Northfield, studied medicine with Dr. Stanton of Amenia, New York, and N. B. Ives of New Haven; was graduated at Yale, M.D. in 1845 and settled in Durham. In 1856 he removed to Poughkeepsie, New York, where he died of pneumonia in September, 1858.

* Dr. Chauncey Andrews was born in Southington, studied medicine with James Percival of Kensington, father of the celebrated James Gates Percival, the poet, and practiced in Haddam, Hamden and Durham. He died of cancer in 1863.

Dr. Asa Miller Holt was the successor of Dr. Christopher Holmes in East Haddam, where he practiced fifty years. In old age he lost his sight, when he removed to New London, where he died at the home of his son at the age of eighty. He had a propensity to experiment on his patients, so the people thought. He is remembered on the west side of the river and had there a reputation for success in treating fevers, especially scarlet fever. His hobby in the latter disease was frequent sponging with a solution of soda. He was sure this treatment would save every case. Dr. Holt was a tall, large bony man, with broad shoulders and a big head. He enjoyed having his own way, had plenty of assurance and not too much regard for the opinions of his brethren to be agreeable. He is said to have been jealous of his colleagues in the profession. He met Dr. Cone one day and said to him, "Well, Doctor, I suppose you can cure every case of sickness". "*All but the last*," said Dr. Cone.

Dr. David Willard was born in Chester, February 5, 1789. His early education was obtained under the direction of Rev. Samuel Mills of Chester. He studied medicine with Dr. Smith Clark of Haddam, and finished his education at the medical department of Columbia College, New York. He was admitted to membership in the Middlesex County Society in 1814. He remained in practice only a short time in Ches-

*Dr. Mathewson.

ter, removing to Wilton, Connecticut, where he practiced his profession and died at the age of seventy-nine. His brother, Dr. Sylvester Willard, a physician and philanthropist of prominence in Auburn, New York, died in that place in 1887. Dr. David Willard was the father of the late Rev. Samuel Willard of Colchester.

Thomas Minor was the son of Rev. Thomas and Dorothy (Brainerd) Minor, and was born in Westfield parish, Middletown, October 15, 1777. His mother was a sister of Dr. Hezekiah Brainerd. He entered Yale at the age of fifteen and was graduated at nineteen. It is not strange that he started in life with a feeble constitution and in poor health. After teaching in Goshen, New York, and at Berlin he began the study of medicine with Dr. John Osborn in Middletown, and in 1808 began practice in Lyme, where he remained a brief time and removed to Middletown, where he practiced as much as his health would admit. At forty-five he became a confirmed valetudinarian and was obliged to do but little active professional work. At this time in connection with Dr. Tully he wrote "Essays on Fevers", which attracted considerable attention. He visited his friend, Dr. Samuel B. Woodward of Worcester, Massachusetts, to see what he could do to relieve his sufferings and, as he said, if he could not, to die with him. With that friend he did die on the morning of the twenty-third of April, 1841, at the age of sixty-four and his body was brought to Middletown for interment. He is said to have left behind him few as ripe scholars, profound philosophers or philanthropists. He was an accomplished linguist in the French, Italian, Spanish and German languages and was of great service to Noah Webster in compiling his dictionary. His moral qualities are also extolled, his exemplary life, his Christian character, his firm faith through his long sickness; and in death his hope laid hold on a glorious resurrection. He left a legacy to the Congregational Society at Westfield of \$1,000.

He was president of the Connecticut State Medical Society at the time of his death. His family, like that of Dr. Hezekiah Brainerd, at his death became extinct.

Dr. Jonah Cone was born in East Haddam, May 17, 1763.

He studied medicine with Dr. Thomas Moseley and practiced his whole life in his native town. He is remembered by the oldest persons in the town as a man beloved and trusted, fond of children and faithful to his calling. He died of typhus fever September 18, 1830, aged sixty-seven.

George Haskell Abernathy was born at Harwinton, Connecticut. William Abernathy, his grandfather, was a physician. He was graduated M.D. at Yale in 1830, after having studied medicine with Dr. B. H. Catlin, then of Haddam. He spent a year in Bellevue Hospital and in 1831 settled in Chester. Dr. Mathewson says: "He was enthusiastic and successful in his profession, was tall and strikingly handsome and very popular in the community." He died in the fall of 1844 at Augusta, Illinois.

Dr. Andrew F. Warner, the elder brother of Richard Warner, was graduated at Yale in 1812, studied medicine with Dr. Thomas Minor of Middletown, and received his further medical education at Yale Medical College. He practiced his profession in Haddam and died of fever in 1825, aged thirty-four. He was clerk of this Society at the time of his death.

Dr. Warner left a vacuum in the community in which he moved, that was seriously felt. All felt that a good man and a skillful physician had gone. The old people living speak of him with great tenderness and say everybody, even the little children, loved him. Rev. Dr. Marsh, then a young man, in the sermon at the funeral from the text "The beloved physician" says of him: "After practicing a short time in the west parish of Colchester and the north parish of Saybrook, Dr. Warner removed to Haddam in 1820; and ye are witnesses and God also, how faithfully, how laboriously, how tenderly and how unblamably he discharged among you his important duties. Having lived three years in his family, I have had opportunity to see his various traits of character, and I can say from the heart, he richly deserved our confidence and love. Alas! my brother, very pleasant hast thou been unto me. And to you he has been an invaluable physician. He had a strong understanding; a peculiar talent of discrimination; a tender spirit, and a fortitude and vigor which never failed him."

Richard Warner was born in Hadlyme, October 19, 1794, was graduated at Yale in 1817, studied medicine with his brother Andrew F. Warner, in Haddam, took his medical degree from Yale in 1821 and practiced in his native place until 1831, when he removed to Middletown Upper-houses, now Cromwell, where he practiced until his death in 1853, at the age of fifty-nine.

His biographer, Dr. Casey, who knew him intimately, says: "Dr. Warner was an honest, upright man and a sincere Christian. Living, he professed the faith openly and dying, it was his support. He was a man of strong character and on that very account had warm friends and bitter enemies. He had acute perception and retentive memory and devoted much attention to the natural sciences. He was an independent thinker and fearlessly carried out his convictions. He abhorred quacks and never disgraced his profession by stooping to the small empirical arts and practices of some. He died suddenly of an inflammation of the intestines. At the autopsy extensive disease and softening of the mucous membrane of the duodenum and small intestines was found.

Dr. Mathewson says of him: "He was first in every good work, standing firm for the right. With the anti-slavery and temperance movements he was early and warmly engaged. He was born a quarter of a century too early for his own comfort, as he gained nothing but ridicule for pushing innovations which have since become established successes. He filled successively all the offices of trust in the church, the society and the town."

Seth L. Childs was born in Barnstow, Canada East. He was graduated in medicine at Woodstock, Vermont, settled in Durham in 1838, and in 1856 removed to East Hartford, where he died in 1888. He has one son, who is a physician in Hartford. He was chosen to the state senate in 1845.

William Tully was born at Saybrook Point, February 18, 1785, was graduated at Yale in 1806, studied medicine with Dr. Mason F. Cogswell of Hartford, at Dartmouth College, with Dr. Samuel Carter of Saybrook, and with Dr. Eli Ives of New Haven. He was licensed to practice by the Connecticut Medical Society in 1810 and in 1819 Yale College conferred on

him the honorary degree of M.D. He practiced medicine first for a short time in Enfield, where he married Mary, the daughter of Rev. Elam Potter of that place. From Enfield he removed to Milford. In 1816 he removed to Middletown, and again in 1822 to East Hartford. In 1824 he was appointed Professor of Theory and Practice in the Vermont Academy of Medicine at Castleton.

Dr. Tully was a large man, tall and broad, with a large head and prominent eyes and would have been a man to attract attention without the gift of speech; but he was never long silent. I remember him as he used to fill the large arm-chair in H. J. Brewer's drug store in Springfield, Massachusetts. He seemed perfectly happy if he could get a doctor or two to listen to some of his learned talk, generally on some article of the *Materia Medica*. At such times he did all the talking or lecturing in a loud voice and with an assured manner. He was frequently called in consultation, and a number of times by my preceptor, and the same dignified assurance characterized him, he giving his opinion in the most positive and formal manner.

The world itself would hardly have contained the books he would have written had he had the opportunity. Very little practical knowledge has been educed from his voluminous "*Materia Medica, or Pharmacology and Therapeutics*", a work upon which he labored for many years. This work was not published in all the detail planned by Dr. Tully, but Dr. Jefferson Church, who seemingly had an admiration for Dr. Tully equal to Boswell's for Johnson, superintended the publication of it and assumed the pecuniary responsibility of the undertaking, which never was remunerative. Dr. Henry Bronson says of this work: "Its imperfections are all forgotten by him who has the courage to read it and the capacity to understand it."

In 1826 he went to Albany and entered into copartnership with his intimate friend, Dr. Alden March. In 1829 he received the appointment of Professor of *Materia Medica and Therapeutics* in Yale and removed to New Haven. His last course of lectures was delivered at Yale in the session of 1840 and 1841. In 1851 he removed to Springfield, where he died February 28, 1859.

He had ten children—two unmarried daughters survive and reside in Springfield. Dr. Tully was no doubt, as has often been said of him, a very learned and scientific physician. He was a voluminous writer and great talker. He was full of words and delighted to pour them out to whoever would listen.

A specimen of his verbosity is seen in the following from a letter written me in 1855 in regard to the virtues of that excellent preparation he has given us:

The Tully Powder.

“My Pulvis Camphoræ Compositus (Compound Powder of Camphor) intended as a substitute for Dovers Powder (commonly so called) is made in the proportions of common Sulphate of Oxyde of Morphinum one part; Camphor (carefully pulverized by the aid of a little Alcohol); very fine powder of the root of Liquirice; and delicately prepared chalk; of each twenty parts as according to the following formulæ, viz:

℞ Morphini Oxydi Sulphatis, 3i
 Camphoræ officinarum,
 Radici Liquiritia officinalis
 Calciæ Carbonatis mollioris preparati ʒʒ gr. xx”

Frederic William Shepard was born in Plainfield, March 18, 1812. He was the oldest son of Job Shepard, a former resident of Saybrook. His father died when he was twelve years old, leaving a widow and five children.

Frederic was industrious, and manifesting a desire for knowledge was taken under the care of Frederick W. Hotchkiss, his namesake, and instructed in the classics sufficient to prepare him for the study of medicine. He studied medicine with Dr. Samuel Carter of Saybrook. He was graduated M.D. at Yale in 1834. He first settled at Gates Ferry, where he remained a short time, removing to Essex, where he practiced until his death from pneumonia May 2, 1863, at the age of forty-eight.

Dr. Shepard was a frank, sincere, honest man, conscientious in the discharge of all his duties as a citizen and a physician.

David Harrison was born in North Branford in 1802. He was the youngest of five children and outlived his parents and brothers and sisters. He studied medicine with Dr. Parker of Wallingford, a brother-in-law, took his medical degree at

Yale in 1825, and settled in Durham, where he spent four years. In 1829 he removed to Middletown. Owing to ill health he went to Cuba, where he remained five years and practiced his profession. Here he accumulated a competence and returned to resume business in Middletown, where he continued until being admonished that his time was nearly come, he went to his relations in Fair Haven, told them he had come to die, and expired at that place December 14, 1856, aged fifty-four.

Dr. Harrison was a bachelor. He was somewhat retiring and diffident, but was sociable and agreeable to his friends and won the confidence of those he was brought in contact with. A friend said of him; "He was a man of kind feelings, gentle, manly deportment, excellent moral character, clear, practical judgment, well informed and remarkably attentive as a practicing physician."

Bernard D. Maguire was born in St. Johns, Canada, February 2, 1849, educated at St. Mary's College, Montreal, and at McGill University, where he received the degrees C.M. and M.D. in March, 1873. In June of the same year he commenced the practice of medicine in Middletown, which he continued until March, 1878, when, on account of failing health, he returned to his father's residence in Juliette, Canada, where he died April 3, 1878. Dr. Maguire was courteous and honorable in his professional bearing and made many friends and few enemies.

Henry Holmes was the son of Uriah Holmes, born in Litchfield and graduated M.D. at Yale in 1825; came to Durham about 1826, where he resided until 1833, when he removed to Hartford, where he practiced medicine until his death in 1870.

John Ellis Blake was born October 20, 1831, in Brattleboro, Vermont, entered Williams College in 1848 and Harvard in 1849, graduating A.B. in 1852. His preceptor in medicine was the celebrated Dr. John C. Warren of Boston, for whom Dr. Blake ever entertained a high admiration. He took his medical degree from Harvard in 1855 and pursued his medical studies two years longer in Paris.

He came to Middletown as the successor of Dr. Casey in

May, 1859, where he remained in active practice until November, 1866, when he again with his family visited Europe and remained for about two years, returning to Middletown, but not to practice. In May, 1869, he removed to New York, where he died September 27, 1880, at the age of forty-nine.

Dr. Blake was married June 26, 1858, to Elizabeth S. Gray of Boston, who survives him, with two sons and a daughter.

Dr. Blake was an enthusiastic lover of his profession, often contributed to the public journals and anything from his pen was sure to be of interest. His paper on "Aconite and Opium" was copied into European journals and published in many languages. He was a pleasant man to meet in the sick-room and a courteous gentleman everywhere. He was a good surgeon, a faithful physician and a worthy man.

J. Hamilton Lee, the only son of Selah and Electa Ann (Bushnell) Lee, was born April 10, 1837, in Madison. He studied medicine with his brother-in-law, Dr. Edwin Bidwell, then of Haddam, and in 1858 received the degree of M.D. from Yale College. He settled in Greenville, where he practiced until his departure for the war, August 22, 1862, as Assistant Surgeon of the Twenty-first Regiment, Connecticut Volunteers. He was promoted to Brigade-Surgeon of the Ninth Army Corps and remained until the close of the war. He then returned to Greenville, staying a short time, then he spent a few months in Mississippi, then came to Killingworth, where he practiced until his death from apoplexy, which occurred October 8, 1881, at the age of forty-four.

Cornelius Elijah Hammond, son of Elijah and Esther G. Hammond, was born in Ellington in 1824, one of a family of six children. Among those living is Rev. E. Payson Hammond, the noted evangelist, and the wife of Dr. R. W. Griswold, of Rocky Hill. Dr. Hammond studied his profession with Dr. Alden Skinner, of Vernon, and at Berkshire Medical College and the University Medical College, New York, where he was graduated in 1848. He practiced in Vernon three years in copartnership with his preceptor, then removed to South Glastonbury and in 1870 he moved to Portland, where he had a large practice. His death occurred September 17, 1888, of Bright's disease.

The tribute paid to Dr. Hammond by his near neighbor and friend, Dr. Edgerton, who knew him so well, is beautiful in language and true to life. Hammond was a noble fellow, generous and just, a skillful physician and an honest man.

Benjamin Hopkins Catlin was born in Harwinton, August 10, 1801. He received a license to practice medicine in 1825, from the Connecticut Medical Society and the honorary degree of M.D. from Yale College in 1840. Dr. Catlin commenced the practice of his profession in 1825 in Haddam, about the same time as Dr. Hutchinson, where they were competitors (and not always on the most amicable terms) until 1842, when Dr. Catlin removed to Meriden, where he died February 18, 1880, in the seventy-ninth year of his age.

Dr. Catlin was well known to the profession in this state and in the country. He was an active member of the American Medical Association and present at most of the medical conventions. He was president of the Connecticut Medical Society in 1856-7. He was senior deacon of the First Congregational Church from its organization until his death. He was a man of exemplary Christian character and professional integrity.

After fifty years' practice he made a tour among his old friends and stopped with me one night. His recollection of events half a century before was vivid and his reminiscences of fifty years very interesting.

Dr. William H. Tremaine was born in South Lee, Massachusetts, graduated at Berkshire in 1838. He came to Higganum in 1843, where he practiced until 1856, when he removed to Hartford, where he died of cerebral paralysis April 30, 1883.

He was a genial, open-hearted, generous man, fond of hearing and telling a good story. He was a kind-hearted physician, and for many years was the coroner and town physician of the city of Hartford. The loss of his only son, Rev. Charles H. B. Tremaine, who was rector of St. John's church, New Haven, a young man of brilliant promise, was a severe blow to the doctor and from it he never recovered.

Abram Marvin Shew, the youngest of a family of eleven children born at LeRoy, New York, September 18, 1840. He was graduated M.D. at Jefferson Medical College, Philadel-

phia, in 1864, was Assistant Surgeon United States Volunteers at Hilton Head, South Carolina, for six months, then at the Post Hospital at Beaufort, where he remained until the close of the rebellion. After his first course of lectures he spent a year as Assistant Physician at the Asylum for Insane Convicts at Auburn, New York, and there made choice of his specialty, for which he afterwards exhibited such eminent fitness. He received the appointment of Superintendent of the new Connecticut Hospital for the Insane at Middletown—largely through the influence of Dr. Casey—and entered upon its duties in the summer of 1866, before the site was fixed and while the whole scheme was in a crude condition. He managed to secure the present beautiful location and superintended the laying out the grounds, laying the foundations and building to the top-stone the fine structure which reflects his wisdom and skill and is a credit to the commonwealth.

Dr. Shew was one of nature's noblemen. He had opportunity and ability to be equal to the emergency. His work abides, a great monument to his judgment and skill and to that sweet charity which he possessed in so large a degree which abideth longer than stone and mortar and which is greatest of all. He died April 12, 1886, at the age of forty-five, thus early ending his life work, and sleeps well.

The biographical sketch of Dr. Shew by Dr. F. D. Edgerton is so recent, so graphic, and the tribute so tender and true, that nothing more is left me to say.

Datus Williams, one of nine children, was born February 25, 1793, studied medicine with Dr. Osgood of Lebanon and Dr. Cogswell of Hartford, attending lectures at Yale, chumming with Dr. Charles Hooker. He was licensed to practice by Yale College in 1823, and began practice in East Haddam first in Millington parish, and there married Clarissa M. Peck, in 1824. In 1835 he moved to the central part of the town, where he continued in active and successful practice until his death, November 4, 1867, in the seventy-fifth year of his age.

Dr. Williams was a neighbor of mine, but separated by the river, which is a great barrier to free communication. Whenever I did meet him it was to find a courteous and intelligent professional brother, and socially a generous and entertaining host.

Dr. Williams left a widow and two sons. The oldest son studied medicine and was graduated at New York University and practiced in that city. The other son, George G., is the president of the famous Chemical Bank in the city of New York. He occupies his father's old home in the summer and takes great pleasure in making it a beautiful and attractive place.

William Bryan Casey was the seventh son of James and Susan C. Casey, born in Middletown, December 28, 1815. He was graduated A.B. at Columbia College, New York, in 1834, and M.D. at the University of Pennsylvania in 1837, spent some time at Bellevue Hospital and in 1839 established himself in his native city, where he became a prominent and successful physician and died of diabetes March 26, 1870. During the war he was Brigade-Surgeon for one year—afterwards for a time a resident of New York City and one of the attending surgeons of St. Luke's Hospital. He spent one year at New Haven as Assistant Surgeon of Knight Hospital, and was charged with the duty of organizing a government hospital at Montpelier, Vermont. While at New Haven he delivered a course of lectures on obstetrics at Yale College.

Dr. Casey was one of the most honorable and pleasant men to meet in consultation. As a counsellor at the sick-bed he was excelled by few. There was no shadow of meanness about him, no sham, no effort to be considered the embodiment of wisdom. He was prompt and ready in coming to a conclusion and rarely had occasion to change his first impression of a case. He was everywhere a courtly, suave gentleman, of fine physique and commanding presence, an able and learned physician and a steadfast friend. He was twice elected mayor of the city and edited and published the first daily paper in Middletown, and was always prominent in every measure looking to the advancement of the interest of the town.

Francis Griswold Edgerton, the third son of Simon and Lucy (Griswold) Edgerton, was born in Norwich, March 23, 1797, and died November 2, 1870. He studied medicine with Dr. William L. Eaton, of Norwich, located in East Hampton as successor of Dr. Charles Smith in 1821, where he was in active and laborious practice forty-five years. His business

took him over a wide extent of country in every direction in all the adjoining towns. He was a man who attended closely to business, rarely or never taking a day off from his work. He was honorable and just in his professional character and every way a genial and pleasant person to meet, and a self-reliant, judicious practitioner with a large circle of friends and patrons. He leaves one son, Dr. Francis D. Edgerton, who possesses all the virtues of the father and is a shining light in the profession.

Asa Howe King was born in New Haven, April 5, 1798. He was the son of Rev. Asa and Eunice (Howe) King. His father was for many years pastor of the Congregational Church in Killingworth, where young King spent his youth. He was graduated at Yale College in 1821 and M.D. from Bowdoin in 1824, having pursued his medical studies under the direction of Dr. A. F. Warner, of Haddam. He spent nearly his whole professional life in Saybrook, where he died November 20, 1820, aged seventy-two. Dr. King was a most conscientious, faithful and prudent physician. He possessed a serene and dignified bearing, gave his opinions in a few words and after considerable deliberation. Two sons and a daughter survive him.

Charles Woodward was the eighth and youngest child of Dr. Samuel Woodward of Torrington, and was born August 15, 1798. His oldest brother, Samuel B. Woodward, for awhile a practitioner in Wethersfield and later Physician and Superintendent of the Insane Hospital at Worcester, Massachusetts, and Dr. Henry Woodward, a prominent physician, who died in Middletown in 1832, were eminent men in the profession.

Dr. Charles Woodward commenced practice in Middletown at the death of his brother Henry and continued the care of a large business there for thirty-eight years. He had previously been in practice for ten years in Windsor.

I knew Dr. Woodward intimately for fifteen years. He was somewhat brusque in manner and positive in the expression of his views, but when I came to know him I found him gentle, kind and true, a ready and safe councillor and a warm friend. He followed his noble calling with a philanthropic

heart and seemed to be prompted by such motives as moved the heart of the "Great Physician". I remember at one of the meetings of our Society he presented a resolution making it the duty of each member to charge and collect of clergymen the same fee as for others. I also remember calling him to Haddam in consultation one cold raw day in November, 1863, to see a poor clergyman, very sick with pneumonia. The roads were bad and the journey was an uncomfortable one for man and beast. After promptly attending to the case in hand, an encouraging word to the patient and friends and words of counsel to me, he was ready to return. I asked him how much was his fee. He said, "Nothing". I remonstrated, telling him I was not willing he should be to this trouble on such a day without remuneration and that the family were willing and desirous of paying the usual fee. He replied decidedly: "No, I will take no fee from this poor minister. A clergyman shall pay me like other men when he is able; but I will take no fee of this poor man!" He went home probably with spirits not depressed; very properly he might have said with good old Nehemiah, "Remember me, O my God, for this," so having respect to that last recompense of reward; or he might have had some such experience (not uncommon, we think, to the faithful in our profession) of Leigh Hunt's hero:

"Abou Ben Adhem—may his tribe increase—
Awoke one night from a dream of peace
And saw within the moonlight in his room,
Making it rich and like a lily in bloom,
An Angel—writing in a book of gold—
Exceeding peace had made Ben Adhem bold
And to the presence in his room, he said,
'What writest thou?' The angel raised his head,
And with a look made all of sweet accord,
Answered—'The names of those who love the Lord.'
'And is mine one?' said Adhem. 'Nay, not so,'
Replied the angel. Adhem spake more low,
But cheerily still, and said, 'I pray thee then,
Write me as one who loves his fellow men.'
The vision wrote—and vanished; the next night
The spirit came again with great awakening light
And showed the names whom love of God had blest,
And Lo! Ben Adhem's name led all the rest.

That is a graphic and beautiful picture of the last great day when He shall say Come ye blessed of my Father, and they of the righteous shall answer, When saw we Thee a hungered and fed Thee? or thirsty and gave Thee drink? or a stranger and took Thee in? or naked and clothed Thee? or when saw we Thee sick or in prison and ministered unto Thee? Then shall the king answer, Inasmuch as ye did it unto the least of these my brethren, ye did it unto me.

Dr. Woodward was president of the Connecticut Medical Society in 1868, was twice a member of the State Legislature and once in the Senate. He was for twenty years a trustee of Wesleyan University. He was one of the principal movers in the establishment of the High School, and purchased the site on which the building stands. He was also one of the movers in the construction of the Air Line and Branch Railroad and was active in every good work. His two sons, Charles and Henry, are in the drug business and are prominent and useful citizens of Middletown.

George O. Jarvis, a son of John Jarvis of New Canaan, was born July 14, 1795. He studied medicine with Dr. Turner S. Whitmore of Winchester, attended lectures at Yale, was licensed by the Connecticut Medical Society and commenced practice in Torrington in 1817, where he remained two years, then removed to Colebrook. In 1840 he took up his residence in Portland, where he died February 3, 1875, at the age of eighty, having seen fifty-eight years of active professional service.

Dr. Jarvis was a man of good intellectual capacity. He was an independent thinker, had a strong will and sound judgment. A half century ago he was well known as the inventor of "Jarvis' Adjuster", an apparatus for reducing dislocations and fractures. In 1845 he went to Europe with this invention, introducing it to the notice of the profession, where it was well received. He was awarded a gold medal by the Society for the Promotion of the Arts and Commerce in England, the presentation being made by Prince Albert. Dr. Jarvis was always proud of this distinguished honor.

Dr. Jarvis was cordial, frank and gentlemanly in his treatment of his professional brethren. He was an ardent Epis-

copalian. He leaves one son, who follows his father's profession and resides in Hartford.

Denison H. Hubbard, the son of Deacon Nathaniel Hubbard, was born in Boston, September 1, 1805. He studied medicine with Dr. J. S. Peters of Hebron, then Governor of the State, and with Dr. William O. Talcott, of Winsted, and was graduated M.D. at Yale in 1829. He began practice in Glastonbury, where he married Parmela A. Hubbard. He soon removed to Bloomfield, where he remained until 1844, when he went to Clinton, where he died August 12, 1874, aged sixty-nine.

Dr. Hubbard was "an honest man, the noblest work of God". He feared God and conscientiously served him in his day and generation. He faithfully administered to suffering humanity with the spirit which animated the Great Physician, honorably fulfilling his high calling and quietly fell to sleep, universally lamented by the people he so long and faithfully served. He left one son, Dr. Charles H. Hubbard of Essex, who is like his father and is an honor to the profession.

Dr. Ira Hutchinson was one of a family of nine children of John and Molly Hutchinson, born in Hebron, March 1, 1800, and died in Cromwell, August 8, 1881, full of days and honor—like a shock of corn fully ripe. He studied medicine with Silas Fuller and was graduated M.D. at Yale, March 1, 1825. He practiced a short time in Long Meadow, Massachusetts, but soon removed to Haddam, where he remained until 1853, removing thence to Cromwell. His whole professional life covered a period of fifty-six years. I never knew a physician so conscientious in regard to his duties to his patients as was he. All day and into the night he cared for them and when he got rest was a mystery. His must have been an iron constitution to have endured it so long. He found time, however, to regularly attend church, and was rarely absent from the medical gatherings, always manifesting a lively interest in matters pertaining to his profession.

Dr. Hutchinson was a man of positive convictions which were frankly expressed. In his profession none could be more honorable. His tall, erect form, his gentle, yet positive, manner of speech, are well remembered by all who knew him. He was a man of great purity of character and a devout,

humble Christian, who, as the end of life's journey approached, was sustained and soothed by this unfailing trust, and peacefully entered into rest. I will not say as Shakespeare makes Cassius say of Brutus:

“This was the noblest Roman of them all.”

But I may truthfully say:

“His life was gentle and the elements
So mixed in him that Nature might stand up
And say to all the world—this is a man.”

Dr. Hutchinson was president of the State Medical Society in 1873. He married first Mrs. Lucinthia, widow of Dr. Andrew F. Warner: for his second wife, Miss Laura A. Dart of Middle Haddam. By his first wife he left three sons and three daughters. His son, John Ira, is a well known public man, now collector of this district. His second daughter is the wife of Hon. Cephas Brainerd of New York. His grandson, Dr. Baldwin, is a promising young man practicing in Dr. Hutchinson's old field in the town of Cromwell. The only daughter of his second wife is the wife of Dr. J. F. Calef of Middletown, so the life and work of the father is continued and carried on by the children.

Dr. Joseph Barratt was born in England in 1796, came to Middletown and was Professor of Botany, Chemistry and Minerology in Partridge Military Academy, an institution which stood on the grounds now occupied by Wesleyan University. He was graduated M.D. at Yale College in 1834 and practiced in Middletown until his death in March, 1881, at the age of eighty-five.

Dr. Barratt never married. He was an eccentric and original character. He led a kind of homeless life, very irregular in his habits of eating. For days he would eat very little, apparently oblivious of the necessity of food, then when opportunity offered would eat an enormous meal. He was a great lover of the natural sciences and an authority in botany and geology. His office was a curiosity shop—of old musty books and papers, stuffed birds, preserved specimens of various animals and insects and some fine geological relics. He was well read in medicine and not averse to the practice of his

profession, but he probably rarely collected a bill unless it was offered him at the time of service. Yet he had some very warm friends and patrons who believed he was very skillful and would have him if possible. He had original and positive ideas on medicine and everything else and was always ready to give his opinion. Some waggish boys once carried him a bug that they had fixed up to puzzle him. Its head was pulled off and with a pin fastened on wrong end first to the body. He was asked if he had ever seen anything like it. After looking it over he remarked that he never had seen anything like it in this country, but, *they were common enough in England.*

I consulted him once in regard to a patient, a friend of his. I was giving him among other things a laxative pill containing a little aloes. He remonstrated. "What are you giving him aloes for? Don't give aloes to a man! A woman will grow fat on aloes; but to a man aloes is *poison, a rank poison, sir.*"

Another of the fathers in the profession, Dr. Alanson Hodges Hough, passed away November 15, 1886. He was born October 26, 1803 in Bozrah, studied medicine with Dr. Johnson, graduating M.D. at Yale in 1832, and settled in Essex, where he spent his long professional career of fifty-two years. He was a consistent Christian and for many years a deacon of the Baptist Church. In 1855 he was elected State Senator.

Dr. Rufus Baker, his personal friend and neighbor, in his biographical sketch of him, says: "He was a man of sound judgment, a valuable counselor, a firm friend, a good citizen and an exemplary Christian." This is sufficient eulogy for any man.

Elisha Bourne Nye was born at Sandwich, Massachusetts, November 7, 1812. His father was Braddock Nye, captain of a merchant ship. His mother was Martha Bourne. He was graduated A.B. at Wesleyan University in 1835 and studied medicine with Dr. Thomas Miner of Middletown and with Doctors Eli and Nathan B. Ives of New Haven, and was graduated at the Yale Medical College in 1837. He settled in Moodus, where he practiced fourteen years, then he removed to Middletown and enjoyed a good practice until his death, March 7, 1889, at the age of seventy-seven.

Dr. Nye was small in stature, quiet and modest in demeanor, possessed sparkling dry wit and won favor from his professional brethren and the general public. He was president of the Connecticut Medical Society in 1884 and was honored by many positions of trust in the community where he lived.

Gershom Clark Hyde Gilbert was born in Mansfield, July 17, 1817, the son of John and Cynthia (Hyde) Gilbert. His father was a merchant. After a boyhood spent in his native town he lived with and prepared for college under the direction of Dr. Richard Warner in Cromwell, whose wife was a sister of Dr. Gilbert. He was graduated at Yale in 1841 and after studying medicine with Dr. Archibald Welch in Wethersfield he took his medical degree from the same institution in 1844 and soon after commenced practice in Portland, where he continued in a large practice for twenty-three years. Here he married the daughter of Rev. Henry Talcott, for fifty years the pastor of the Congregational Church in Portland, by whom he had one son. In 1867 he removed to Waterbury, where he was in practice four years, and then to Hartford, where he engaged in the drug business. He was here a few years and then resumed the practice of his profession in Westbrook. Soon after his removal to Westbrook his son, Dr. C. H. Gilbert, died at his house, which event left a shadow on the naturally cheerful face of the father, that never seemed to be wholly dispelled. His health gradually failed and he died October 31, 1889, aged seventy-two. Dr. Gilbert was quiet and modest in manner. His highest ambition seemed to be attained if he could perform his duty faithfully to his patients and to his God.

Ambrose Pratt, born at Deep River, was graduated at Yale in 1837, and M.D. at Columbia College, Washington, District of Columbia, in 1843 and practiced in Chester, with the exception of eight years when he resided in Milwaukee, Wisconsin. He opened a water-cure infirmary in Chester on his return from the west which, for awhile, was well patronized. For some reason connected with this he was (unjustly we think) expelled from this Society. Dr. Pratt was frank and honest, a man of learning and character, and a good and faithful practitioner. He was Surgeon in the Twenty-second Regiment,

Connecticut Volunteers, and went to war with them in 1862, remaining until the regiment was mustered out.

Dr. Rufus Baker was born in Albion, Maine, January 7, 1815, was graduated M.D. at Columbia College, Washington, District of Columbia, settled in Deep River in 1843 and removed from that place to Middletown in 1860. During the time intervening until his death he had been in practice, with the exception of a few years when he relinquished his professional duties and engaged in business, in which he was successful.

Dr. Baker was a shrewd business man, jealous of his rights as a practitioner and faithful in the discharge of his professional duties. He was a capable and skillful physician and a good citizen.

Dr. Franklin Woodruff was born April 25, 1820, in Burlington, studied medicine with his brother, Dr. Lucius Woodruff, of New Britain, was graduated M.D. at the University of New York, in 1844, and practiced twelve years in Middletown. He then removed to Des Moines, Iowa, where he engaged in the drug business. His brother Lucius, who had been in successful business for years, died about the time of his return east and left him quite a fortune. He spent some time in travelling abroad and in his own country and had been living quietly in Berlin since 1873, until his death, March 30, 1892. By his will he bequeathed, at the death of his widow, quite a large sum to the Home Missionary Society.

These are the men of the first century of the Middlesex County Medical Society who have finished their course. Under disadvantages they have labored and we enter into their labors. Blessed are our eyes that see the things we see. They did what they could, we can do no more, but with the better advantages of to-day, those upon whom rests the future prospects of this Society, much is expected. Our present membership, united and harmonious in their fraternal relations, men of character and reputation, will do what they can to sustain and advance the good work the fathers established, and so most successfully foster the interests of our common humanity.

SECTION OF OBSTETRICS,
GYNECOLOGY AND DISEASES
OF CHILDREN.

SECTION OF OBSTETRICS, GYNECOLOGY AND DISEASES OF CHILDREN.

WEDNESDAY, May 25.

The meeting of the Section was opened by the President's Address on The History of Obstetrics and Diseases of Women and Children; a most interesting presentation of the progress made in these departments during the past hundred years.

Dr. P. H. Ingalls read a paper upon Trachelorrhaphy, which was discussed by Dr. F. E. Beckwith.

Dr. Robert Lauder's paper on Pelvic Hematocele, was read by Dr. Wordin in the unavoidable absence of the author. The case presented was discussed by Dr. Beckwith, who thought that the diagnosis could have been made. In his opinion no disease except hematocele could have produced the symptoms related. He would not approve of laparotomy in this condition, but would empty the hematocele by vaginal incision in Douglas' cul-de-sac.

Dr. William T. Bacon read a paper upon School Life in its Relation to the Eyes, which was discussed by Dr. M. M. Johnson, who thought that all school-boards should be urged to remove the evils referred to. At half past four the Section adjourned until Thursday afternoon.

THURSDAY, May 26.

The proceedings were opened by Dr. J. H. Townsend's paper on Pelvic Cellulitis. This paper was very thoroughly discussed by Dr. Cheney.

Then came the paper of Dr. Gustavus Eliot on the Disorders of the Nervous System Associated with the Menopause. The discussion was opened by Dr. Barber and continued by Dr. Hallock, who believed that the existence of a neurotic constitution was a most important faction in the etiology of these disorders.

Dr. E. F. Parsons' paper on the Duties and Responsibilities of the Modern Accoucheur was read and afterwards discussed by Dr. S. R. Burnap.

A paper by Dr. J. E. Root upon Electricity in Diseases of Women was read. It was discussed by Dr. G. C. Segur.

Dr. M. M. Johnson presented a paper upon Diphtheria.

All papers read were referred to the Committee of Publication.

There being several papers upon the program which had not been read it was voted that they be read by title and referred to the Publication Committee.

On account of the small number present no session of the Section was held on Friday.

W. W. KNIGHT, M.D.,
Secretary.

THE PROGRESS OF OBSTETRICS AND DISEASES OF WOMEN DURING THE CENTURY.

AN ADDRESS BY THE PRESIDENT OF THE SECTION,
JAMES CAMPBELL, M.D., HARTFORD.

Gentlemen :

Several months ago I was notified that the honor of presiding over this meeting had fallen upon me, and that I would be expected to open the exercises of this section with an historical address upon Obstetrics and Diseases of Women. On further inquiry, I learned that I was only to present the progress made in these important departments of our profession during the century that has elapsed since the organization of this Society. I have been diligently seeking ever since to find some means of compressing, so to speak, the progress of a century, that I might discharge it here this afternoon in the short half hour that is allotted me; but I find this is impossible, or, if possible, it is an undertaking of too great a magnitude for me to attempt. I am painfully conscious that my genius is not equal to such a task.

To give you, even in outline, the progress achieved in a century would absorb more time than we have at our disposal, and might infringe upon the more scientific work of the section, and I shall only attempt to emphasize a few of the more important changes that have been wrought, and will not detain you with a long address.

To watch the growth and development of the obstetric art, and to note its slow progress of advancement from the earliest times down to the middle of the eighteenth century, is deeply interesting, and will well repay one for the labor and study involved, for it is a study of the gradual development of the human race, wherein lies ample room for thought, and from which some important lessons may be learned. Each century

is said to teach its own peculiar lesson, and to make some special point in human development.

The seventeenth and eighteenth centuries are notable for the great impetus given to free thought and free speech. The mind of man refused longer to be held in subjection by the king or the church. It is this which has paved the way for placing the freedom of the nineteenth century on a safe foundation. It is this which has remedied the three fundamental errors of the olden times—errors which made the people, in politics, too confiding; in science, too credulous; in religion, too intolerant.

It was this spirit that framed the declaration of Independence, and that most remarkable document, the Constitution of the United States.

As a natural result of the trend of thought throughout Europe during these two centuries, the nineteenth century saw the light of day under most auspicious circumstances. The mind of man was less fettered than ever before in the world's history, and curiously prying into every subject, physical, political, philosophical, in fact, nothing however difficult or forbidding, nor however enshrouded by sacred mystery or time-honored superstition, was allowed to go unquestioned.

The offspring of such parentage was, is, and ever must be progress, development, and improvement. It is as natural that such should be the fruit as for the grape to be the fruit of the vine, or for the rising sun to bring daylight; and we note without wonder that as the young century advances, a world is rapidly being transformed; governments are constantly changing and becoming more liberal; religions steadily growing more tolerant; invention following invention with wonderful rapidity; the means of communication and transit developed to such a degree of perfection that the traveller may encircle the globe in a few days; the stormy Atlantic converted into a stream, crossed by a line of palatial ferry-boats running accurately upon time; news flashed over the world in a twinkling, so that we may hold daily intercourse with all quarters of the globe. How little could Franklin realize that the spark he drew from the thunder-cloud would so soon illuminate the whole earth, or become the great moving power it is to-day.

All the sciences develop rapidly; the highest mountains, the deepest seas, and the very bowels of the earth itself are matters of closest scrutiny by this restless, inquisitive mind of man, and, one by one, nature has yielded up her secrets to the faithful student, who, in turn, has benefited and enriched his kind.

Could the men who, a century ago, organized this Society step forth from their resting-place, with what wondering gaze would they look upon our railways, steamboats, electric lights and motors, the telegraph, labor-saving machinery, etc., to say nothing of the consternation depicted in their faces as they listened to the relation of bloodless operations performed while the patient was taking a delightful journey in dream-land, and his recovery without pain, inflammation, or even "laudable pus". How interesting it would be to note the expression upon their honest faces as they listened to the recital of a case of ovariectomy, or to the statistics of some ambitious gynecologist, who, in eighteen months' practice, had removed the ovaries in thirty cases—in ten of which there was well-marked ovarian or tubular disease; ten in which the symptoms rather pointed toward the sexual apparatus; and the other ten showing obscure nervous symptoms. They would most certainly be profoundly impressed with the fact that the nineteenth century had given birth to marvelous changes; possibly the brightness of the electric light, the thundering noise of railway trains, and the hurry and bustle of life, to say nothing of their impressions of modern surgery, gynecology, and medicine, might cause them to express a desire to be allowed to return from whence they came, there to enjoy continued repose.

That these supposed visitors organized the Connecticut Medical Society so soon after the struggle for independence, is evidence of the deep interest they felt in their arduous calling, and gives us reason to think of them with feelings of respect and honor, as of brothers in a common cause who have performed their work, laid down their burdens and passed on to the realm of death, where we of to-day shall shortly follow them.

The great struggle for independence left American physi-

cians poor, and the occupation of bread-winning for themselves and those dependent upon them, was the all-important, all-absorbing topic for the years immediately following, and it is quite natural that we find little emanating from an American source at this time that advances the obstetric art to any material degree, though, from what we do glean, it is evident that our practitioners, or many of them at least, were quite abreast with their brethren across the water.

The obstetric practice was of the kind taught by Smellie and Levret, the obstetric forceps being practically the same as invented by these teachers in the middle of the eighteenth century. Near the close of the last century, and after the revolution in France in 1793 which shook all Europe to its center, we find a new impetus given to scientific study; and from this time we may date the modern French school which has exerted such a vast influence upon medical and surgical studies. The induction of premature labor was resorted to early in the present century, but found a strong opponent in Baudelocque, and fell into disuse until 1831, when Stolz in Germany and Dubois in France revived it, and finally established it upon a permanent foundation.

Artificial abortion also received much attention from scientific obstetricians, though practiced from time immemorial for criminal and economic reasons.

In 1717 Cooper, in England, recommended this procedure as a means of lessening the fatal Cesarean section. And Schiel, in Holland, resorted to it in 1799. In 1802 it was practiced in Germany for scientific reasons, and in France in 1835. Other means were recommended for the purpose of avoiding the Cesarean section, as symphysiotomy in 1768 by Sigault: removal of the entire uterus, Cavillini of Florence, 1768.

Gastro elytotomy was advocated by Jörg in 1807, also by Physic of Philadelphia, and was attempted by Ritgen in 1821. From the beginning to the middle of the present century, the study of physiological labor received great attention in France and Germany, and the strides made in the obstetric art in these countries were rapid; nor was our new country without excellent teachers, as the works of Dewees, Meigs and Hodge

give ample testimony. The action of ergot upon the uterus was made known to the profession by Dr. John Stearns of New York, in 1807.

Laennec's invention of the stethoscope in 1816 excited a great influence upon the diagnosis of disease in general, and was soon found invaluable in detecting the fetal heart-sounds, which constitute the first and most important positive sign of pregnancy. The influence of the writings of John Hunter upon the practice of obstetrics during this period must not be overlooked.

The forceps had been perfected by Smellie and Leveret, and the tendency of the time was toward their too frequent and unnecessary use. In 1774 John Hunter's work on the anatomy of the gravid uterus was published, and for a long time was unrivalled. His efforts were wisely thrown in the direction of conservatism, and were opposed to the operative tendency of the times. He sought to limit instrumental interference, even the application of the forceps, to the most necessary cases. Thomas Denman continued these wise and sensible teachings. The beneficent influence of physiological teaching is seen in the efforts to replace embryotomy and the Cesarean section by premature labor and abortion, to which allusion has already been made.

William P. Dewees first called attention to the dangers of cardiac thrombosis in child-bed, so forcibly taught later by Rudolph Virchow, when pathological knowledge was more complete.

The English obstetricians whose teachings were influential at this time, and potent in advancing the physiological study of obstetrics, are Denman, Ramsbotham, Hamilton and Sir James Y. Simpson. Baudalocque was perhaps the most influential teacher in France, and his name is permanently associated with physiological obstetrics and with certain instruments that bear his name. Later on Cazeaux and Dubois continued the same line of instruction.

Among the German teachers of this period stand out prominently the names of Osiander, who suggested the addition of a tractor to the forceps, Naegele, Bush, D'Outrepont, Siebold, the author of the *History of Obstetrics*, and Michaelis.

From the discovery of anesthesia to 1870 comparatively little that is new and startling in the way of discovery or invention occurs. Under the use of anesthetics, surgical procedures are developed, and obstetric operations attain the highest degree of perfection. The discovery of anesthesia by a Hartford dentist, and the introduction of chloroform into obstetric practice by Simpson, in 1847; the discovery of the infectious nature of puerperal fever by Semmelweis, of combined version by Dr. Wright of Cincinnati, and afterwards by Broxton Hicks, whose name it bears, and the utilization of external manipulations for placental expression by Credé, may be mentioned as among the most important changes of this period.

The use of anesthetics in normal labor, to relieve the extreme suffering, has become more universal in this country than abroad, and has proved a great boon to the woman in childbed. Abroad, the custom of using anesthetics is constantly gaining ground, and will become as general there as here.

Perhaps the most important discovery of this period was that of Semmelweis, regarding the infectious nature of childbed fever, and the means of preventing its spread. His timely and wise teachings have effected almost an eradication of this disease in hospitals, where formerly most disastrous epidemics prevailed, so that to-day we find its occurrence only on rare occasions, and then it is easily controlled.

As early as 1845, O. W. Holmes directed the attention of the profession to the true nature of the malady and to the necessary precautions, but seemingly to no purpose, for epidemics continued to occur, and various lying-in hospitals were invaded and their occupants carried off, until Semmelweis again aroused the professional mind.

From 1870 down to the present time the main feature of improvement in obstetrics, as in surgery, is due to antiseptic, or aseptic treatment. Absolute cleanliness of the patient, the nurse, and the physician have come to be considered of first importance in obstetric practice.

When the antiseptic period was ushered in, the professional mind seemed to take it for granted that there was some

obnoxious substance or poison developed by the patient herself, or in the lochial discharge which was absorbed or re-absorbed, as the case might be, inducing septic fever or poisoning. To combat this, various vaginal douches were recommended, but principally carbolized water, which was almost universally used from 1870 to 1880. Washing out the uterus was considered necessary by many, but fortunately was not extensively practiced, and fell into disuse except in cases where there was good reason to fear the entrance of germs into the uterus, as in cases where the operator had introduced the hand into that organ. The use of carbolic acid in the douche proved disagreeable to many patients on account of the odor, and boracic acid was substituted with equally good results, and finally the bichloride of mercury was used and continues to be held in high esteem, except in those rare cases in which the washing out of the uterus is indicated; in them the carbolic acid is, I believe, generally preferred.

The effect of antiseptic treatment has been quite as beneficial in obstetric practice as in the surgical field, and no change in practice was ever so quickly wrought.

Perhaps the most striking results of the faithful observance of antiseptic precautions is seen in the remarkable lessening of mortality in cases of the Cesarian section. Up to 1870 the death-rate from this operation was so high that few obstetricians felt willing to perform it. With the introduction of antiseptic surgery, however, a great change of opinion occurred regarding the operation, and it was resorted to more frequently, and with most happy results. The rate of mortality was diminished from fifty to sixty per cent. down to thirty, twenty, and some recent German operators claim to have succeeded in reducing it to eight, and even five per cent. It is fair to say that the Cesarian section, after undergoing many vicissitudes, is at last placed upon the list of legitimate operations, and that its future is assured. The operation is of special interest and importance, as two lives are involved, and no triumph of modern obstetrics or surgery is greater than that which we witness in the modern Cesarean section.

The axis traction forceps was brought out by Tarnier in 1877, and made an important advance in instrumental delivery,

with the head at the superior strait, diminishing very materially the danger, as well as rendering the high obstetric operation much easier to perform.

In conclusion, we may say that during the century obstetric art has rapidly improved, and has now reached a remarkable degree of perfection. Indeed, we may date the beginning of this progress from the time of Smellie, who gave accurate measurements of the pelvis, and the pelvic curve to the forceps.

The introduction of anesthetics, the axis traction forceps, the banishment of puerperal fever from maternities, the improved methods of performing version, of managing the third stage of labor, and the resort to antiseptic and aseptic precautions, are all of recent date, and combine to give the parturient relief from pain, and a degree of safety never before attained.

The highest degree of perfection seems to have been reached in maternities where the patient and her surroundings are more completely controlled by the obstetrician than is possible in private practice, and from what I can learn, the results attained in private practice are not as satisfactory for the reasons just intimated.

With these brief and imperfect remarks, I turn from the subject of obstetrics to that of gynecology. If, during the first few years following the War for Independence, we find comparatively little accomplished by American obstetricians that materially advanced the obstetric art, we would quite naturally expect no greater progress to be made in the treatment of diseases of women, and this we find to be the case.

The revival of the use of the speculum by Recamier in 1816 marks the beginning of modern gynecology. It is quite probable that the instrument was used by the ancients, but their instruments, like the one introduced by Recamier, were very imperfect and fell into disuse, so that for a thousand years prior to 1816, gynecology was practically unknown.

The writings of Joseph Osgood, and of Orne, in 1700, lead one to the conclusion that these men were as well informed upon diseases peculiar to women as European writers of that period. All were groping in the dark, at best, and the teach-

ings of English celebrities were largely followed by our forefathers in this country.

At the beginning of the present century our young men of the profession were visiting the seats of medical learning in England and on the Continent, and bringing back with them the spirit of those institutions.

Prominent among those young men must ever stand the name of Ephraim McDowell, a young Virginian, who, on his return from Edinburgh, where he had been a pupil under Mr. John Bell, located in Danville, Kentucky, (1795) where he won marked success as a general surgeon. After fourteen years of practice he was consulted by a Mrs. Crawford for a large abdominal tumor, which he decided was ovarian, and that the only chance of saving the woman's life lay in an operation for its removal—an operation of gravest nature, and one that had never before been performed. The woman agreed to the operation, and without anesthetics, and with imperfect instruments and poor assistants, the operation was successfully performed in December, 1809, and at the end of twenty-five days Mrs. Crawford returned to her home, where she lived thirty-two years longer, dying at the advanced age of seventy-nine.

The second surgeon in America who attempted to remove an ovarian tumor was Dr. Nathan Smith, of Yale. The operation was performed July 5, 1821, and was successful.

Dr. Smith, it is said, was not aware of McDowell's operation at the time. It may be remarked in passing that Dr. Smith was the first professor of surgery at the Yale Medical School. After this the operation was performed by various surgeons, and, as might be expected, there were many fatal cases, but gradually the obstacles in the way of a favorable result were overcome and the operation has become so frequent of late years that most surgeons and gynecologists of considerable practice have operated upon one or more cases. Since the introduction of antiseptic treatment, the operation has been followed by most brilliant results—some operators reporting a large number of consecutive cases without a death.

In giving ovariectomy to the world, Ephraim McDowell conferred an unspeakable blessing upon humanity, and added

largely to the sum total of woman's life and usefulness, besides relieving a vast amount of human suffering.

Few, indeed, are the names entitled to be held in the loving remembrance that should, for all time, be associated with the name of Ephraim McDowell.

It is in the nature of man to honor the great soldier, or the great diplomat ; but how tame such honor seems when compared with that due to one who adds thousands of years to human life, and from under whose skillful hand the dying wife and mother is restored to her husband and family with restored health and vigor.

We in Connecticut may justly recall with pride the part borne by Nathan Smith in placing ovariectomy among the approved surgical operations, and while we cannot claim for him that he originated the operation, we must recognize in him a daring and skillful operator, whose name is an honor to the profession in Connecticut, and to the university with which he was connected.

In the year 1852 the eyes of the medical world again turned to this country and centered upon an Alabama physician.

The speculum of Récamier, as has already been stated, was imperfect, in that it exposed only a small portion of the vaginal wall, and for operative procedures upon either the uterus or the vagina, was of little or no value. J. Marion Sims was the inventor of the speculum that bears his name, and which made operations upon the cervix and vaginal wall possible.

The story of his struggle with the difficulties surrounding vesico vaginal fistula, until then considered an incurable malady, his repeated failures and his ultimate success are familiar to you all, and need not be recited here. Suffice it to say, that he justly deserves the title so generally accorded to him of "Father of American Gynecology".

It is not a surprising thing that when Sims had fairly won his laurels, others should stand ready to claim and wear them, for it seems an almost universal tendency in human nature for the individual to like to be "well thought of", to be distinguished, or clever ; and some, from the days of Jacob and Esau down to the present time, have not hesitated to appropriate

the birth-right of a brother, even in the liberal profession of medicine.

Dr. Sims at length removed to the city of New York, where, although denounced as "humbug" by some of the leading men in the profession, he succeeded in establishing the Woman's Hospital in 1855.

Dr. Sims associated with himself Dr. T. A. Emmett, then a young man and little known; but who has since won a world-wide reputation in gynecology.

In 1857 the Woman's Hospital was chartered as the "Woman's Hospital of the State of New York", and this hospital has been the most important factor in the progress of American gynecology. In 1862 Emmett became manager of the Hospital, which continued to grow and thrive under his wise direction. Gynecology as a specialty was unknown prior to the discoveries that immortalized the name of Sims. Soon after he made his discoveries and inventions known to the world, a number of well known surgeons and physicians became famous as gynecologists. Among them will ever remain prominent the well-known names of Thomas, Emmett, Storer, Peaslee, Goodell, Byford, Skene, and Battey.

The mantle of Sims fell upon the shoulders of Emmett, who has so worthily worn it. He has contributed much of great value to the profession, and has lessened woman's suffering incalculably. Perhaps the most conspicuous of his achievements in uterine surgery is his pointing out a way of radically curing lacerations of the cervix with their attendant evils.

In 1854 Dr. Peaslee introduced a method of combating septicemia following ovariectomy, by the introduction of a tube into the peritoneal cavity, through which the sac was freely washed out.

Dr. Sims's operation for narrowing the vagina as a means of curing prolapse of the uterus, and later his recommendations regarding the cure of vaginismus by excising the remains of the hymen, are deserving of mention as being of practical value in relieving aggravated affections.

The attention of the profession was forcibly called to pelvic hematocele in 1862 by Byrne, Baker and Noeggerath, who

each published papers upon this subject in that year. Prior to this date there was but one case upon record.

Dr. Storer in 1869 published a valuable paper entitled "A Method of Exploring and Operating on the Female Rectum, by everting the Anterior Rectal Wall, by a Finger in the Vagina".

This method has been found of great practical utility in treating certain diseased conditions of the female rectum, and has been pretty generally adopted.

In 1872 Dr. Robert Battey reported a case of extirpation of the ovaries, the results of which justified him in recommending the operation for the relief of dysmenorrhea due to imperfect ovulation, the object being to bring about at once the change of life, and thus cure a disease that must otherwise depend upon time alone for effecting a cure at the menopause.

Dr. Battey says: "I have operated in widely different circumstances; in one case the woman had amemorrhœa, convulsions, recurrent hematocele, repeated pelvic abscesses, incipient tuberculosis, etc. Several cases passed under the head of ovarian neuralgia. Several had intractable dysmenorrhea with pelvic deposits of old lymph. One had ovarian insanity, etc. All had exhausted the available resources, to no useful purpose. I operate on no case that any other respectable medical man proposes to cure. In most of my cases, the full results of the operation have not been developed. This is the work of many months—sometimes three or four years. In no case has the patient failed to realize such a degree of relief and benefit following the operation as to amply compensate her for the pains and dangers incident thereto, to say nothing of the promise of full and ample recovery at the completion of the physiological change. In my first case, three years after the operation the restoration to health is eminently satisfactory. In two cases the cure seemed to occur at once in all its completeness."

The operation, as originally performed by Dr. Battey, was done by drawing the cervix down to the pubes by means of a strong hook, and then incising the post-vaginal wall into Douglas' cul-de-sac, and bringing the ovary down through the

opening, ligating the ligament, and cutting off the ovary, allowing the ligament to slip back into its place. The wound was left open for drainage and allowed to heal by granulation.

The operation was also performed by operating through the abdominal wall, and this method became more popular than the original one, for obvious reasons. This operation has grown in favor and is performed now-a-days for much less serious conditions than its inventor advised. It is a procedure of undoubted value in many cases, but has been, in our opinion, seriously abused by some operators, who have, if we can believe their own statements, resorted to it where there was little to indicate so serious an operation.

Indeed, it would seem that the ovaries of woman were looked upon by some as the only source of disorder of whatever nature from which a woman was likely to suffer, and the organs seem, in some hands, to be in danger of being extirpated by the wholesale, as was the innocent clitoris in days gone by.

The list of gynecologists who have resorted to the operation for the removal of the ovaries is quite large, and the number of recorded cases is great, and there seems to be no reasonable doubt that the operation is of great value in that numerous class of cases where all other treatment has proved futile. The rules that were suggested by Battey should, in our opinion, be rigidly followed; otherwise the operator is quite likely to be led into performing the operation when it is unnecessary.

For an operator to cut short the functional life of the reproductive organs without sufficient cause, should be looked upon by the profession as most reprehensible, and such a step should not be taken without most careful and conscientious consideration of the subject in all its bearings.

A review of the progress made in the treatment of Diseases of Women would be incomplete if the commendable work and eminently practical teachings of Dr. Skene of Brooklyn, New York, concerning the diseases and treatment of the female bladder were overlooked. To him the profession is greatly indebted, as he has pointed out the way for relieving many of the peculiarly distressing affections of this organ.

It is unnecessary for me to recount in detail the progress made in gynecology since Marion Sims revolutionized the treatment of diseases peculiar to women and placed it upon a scientific basis, for the science has had its birth and development within the memory of men now living. Suffice it to say, that the operations upon the cervix, vagina, and perineum, the early detection of pelvic hematocele, the early and careful treatment of tumors of the uterus and ovaries, and of diseased tubes, and a vast number of diseases of greater or less degrees of magnitude and severity, to say nothing of the remarkable progress in modern abdominal surgery in general, all have worked together to make gynecology a most important branch of scientific medicine, and have rendered the sufferings of womankind unspeakably less and her burdens lighter than they were a century ago.

Sometimes when we note the rapid strides made in the world outside of our medical horizon, we are inclined to feel that the healing art progresses too slowly, and is perhaps behind the times in this active and inventive age. But when we stop to consider the rapidity with which the science and art of gynecology has developed, we are led to believe that no one can say that this department of our profession is not fully abreast with the rest of the world. Certainly in no department of life, in no science or art, do we find more accomplished, during the century, that relieves human suffering or that adds more to human life, than we do in this.

THE DISORDERS OF THE NERVOUS SYSTEM ASSOCIATED WITH THE CHANGE OF LIFE.

BY GUSTAVUS ELIOT, A.M., M.D., NEW HAVEN.

During the fifth decade of a woman's life she is subject to a group of peculiar symptoms. The cessation of the function of reproduction is an event second in importance only to the death of the individual. It is not strange that the loss of this wonderful power should be accompanied by changes in the mental and emotional condition, and that the action of the entire nervous system, connected as it is with every organ of the body, should be profoundly disturbed. The women in whom the change of life occurs unaccompanied by disagreeable sensations and symptoms, are in the minority. The object of this paper is to enumerate some of these symptoms, to discuss briefly their nature and origin, and to present some suggestions with reference to their prevention, amelioration and cure.

In ancient times it was commonly believed that menstruation was, at least in part, an excretory function; that with the menstrual blood some indefinite and unknown excrementitious substances were eliminated from the body; that retention of these waste products occurred when the function of menstruation was inadequately performed; and that such retention was productive of very serious results. This idea has gradually been abandoned by most men who use their intellects, and are not abnormally credulous. It is now generally recognized that the absence of menstruation is often not only attended by no unfavorable results, but on the contrary is an important aid to the preservation and increase of the vital forces.

It might perhaps be not unnatural to suppose that, when menstruation finally ceased at the menopause, the failure of

the periodical sanguineous flow to occur would result in the presence in the vascular system of an abnormal amount of blood, and that this would give rise to important disturbances of various organs. It will subsequently be shown that this is, at least, improbable and that on the other hand a deficiency of blood or of certain of its more important constituents, is frequently present at this period.

It may be premised that the average woman is exceedingly neglectful of her health. Her clothing is often insufficient and so arranged as to produce positive injury to her body. Her food is unsuitable in character, improperly prepared, taken at irregular intervals and in insufficient quantity and not properly digested. Tea and coffee are frequently used to excess. Work, both productive and unproductive, is carried on with little regard to the limits of her strength or the necessity for rest. The excretory functions are, as far as possible, forgotten, and constipation becomes habitual.

Such disregard of the recognized laws of health, persisted in for forty years, predisposes to the occurrence of serious disorders. It is at the menopause that many women begin to pay the penalty for their long-continued negligence.

Furthermore the period of life between the fortieth and fiftieth years is likely to be especially trying to the emotional faculties. The loss of aged parents, of brothers or sisters in the prime of life, of children just arriving at maturity, or of trusted and life-long friends—one or more of these bereavements is likely to befall one at this time. Frequently a succession of these sad events produces an almost overwhelming depression of spirits. Besides these great and more obvious trials, the ordinary cares, troubles and worries of life weigh one down at this age with more than ordinary resistibility, because then one begins to feel that the years of greatest activity and vigor have passed, that old age is approaching, and that if the expectations of youth have not already been in some measure fulfilled, they will not be likely to be realized in the future. These depressing events and conditions act as exciting causes of many disorders to which the woman has predisposed herself by years of careless living.

After she has been suffering for weeks and perhaps for

months or years, she is very likely to wander into a physician's office, and tell him that she has malaria. There are, it is humiliating to confess, a good many doctors who will tell her gravely: "Yes. You have malaria. You must take plenty of quinine."

If you enquire carefully in regard to the clinical history of one of these patients, you will find that she suffers from more or less of the following symptoms: Indisposition for excretion, inability to work, forgetfulness, headache, dizziness, insomnia, flushes of heat followed by chilly sensations, sweating, palpitation, flatulence, abdominal distention and constipation. On making further examination you will probably find that her heart and lungs show no evidence of any organic lesion, and that her flesh is flabby, her pulse soft, her conjunctivæ are pale and her tongue is coated. She may have considerable intercostal neuralgia and frequent backaches, and tender spots may be detected in her head, back and chest. She also sometimes complains of swelling of the face, hands and feet, which, however, is often not a real edema.

A study of the clinical history of these cases and a consideration of the inconstant and changeable character of the symptoms, is sufficient to convince one that they are not of organic origin, that they are not associated with any distinct pathological change in the nervous system, but that, on the other hand, they may occur in connection with a variety of different conditions.

In some cases a disordered digestion is the most important factor in the causation and perpetuation of these very distressing symptoms. The chief disturbance may be in the stomach. Then eructation of gas and flatulent distention of the stomach are frequently the most annoying and most important symptoms. Or, on the other hand, the intestines and the associated glands may be chiefly at fault, and the most marked symptoms obstinate constipation and flatulent distention of the abdomen. Not infrequently these two conditions are found coexisting in the same case. They may then give rise to, or be associated with, a number of other symptoms, the most common of which are headache, dizziness, palpitation and dyspepsia.

In some cases anemia is an important element. This may be associated with disturbances of digestion, either as cause or effect. If both exist each may intensify and aggravate the other. If anemia is present the patient usually complains of headache, dizziness and dyspepsia.

In other cases insomnia is a prominent feature. This also may be a result of pre-existing derangements of functions of various organs, and in turn, when present, may aggravate other disorders.

Finally in many cases there is a distinct and well-marked element of nervous exhaustion. This is frequently the starting-point of other disorders, and when they are fairly established is intensified by them.

In making the diagnosis of this condition one should be very careful to exclude the possibility of the existence of any organic disease. In many cases organic diseases are accompanied by symptoms which resemble those which have been described as of frequent occurrence in connection with those functional disorders of the nervous system which are the subject of this paper.

Careful exploration must be made of the chest—of the lungs, but more particularly of the heart, to which many patients think that their troubles are referable—in order to detect the possible presence of commencing or latent organic disease. Careful analysis of the urine should be made occasionally, in order that no organic change in the kidneys may escape notice. The temperature should be taken now and then, especially if the action of the heart is at all accelerated, so that no febrile disturbance may be overlooked. Naturally inquiry should be made as to the manner in which each organ of the body is performing its functions, and any deviation from the normal must be carefully noted and duly considered in deciding upon a plan of treatment.

The prognosis of these disorders is rather uncertain on account of the variety of circumstances which influence their progress. Many patients are exceedingly dilatory in seeking medical advice for their troubles. Many are very negligent about following up the treatment which is prescribed. And some fail to receive proper treatment, because their physician

makes an erroneous diagnosis, or does not understand what therapeutic measures are adapted to the case.

The natural tendency of these disorders is to persist for months and years. They do not, however, have any inherent tendency to terminate in death. With proper treatment their severity may be mitigated, and their duration very much abbreviated. If the patient seeks advice early, is judiciously managed and follows up the treatment conscientiously and persistently, the prognosis is good. Care must be exercised to remove as far as possible the conditions which permitted the development of the symptoms in the first place, lest they return again after treatment has been discontinued.

In the management of these cases it is necessary to combine very careful hygienic regimen with appropriate medicinal treatment. Worry and care must be avoided as far as possible. Regular and prolonged rest must be secured. A moderate amount of mental occupation during waking hours is useful. Abundance of fresh air and moderate exercise are essential. Food which can be easily digested, and which has been properly prepared, must be taken regularly and in sufficient quantity. It must be eaten slowly and chewed thoroughly, and time must be allowed for the process of digestion to become fairly established before the resumption of mental or physical exertion. Tea and coffee must be entirely abandoned, and abundance of milk and water must be taken. Bathing and rubbing influence very favorably the circulation and the processes of nutrition. The body must be properly protected, so as to maintain an equable degree of warmth throughout, care being taken to avoid the extremes of an excess or a deficiency of clothing.

If the functions of any organ are not properly performed, treatment must be so directed as to restore and maintain normal action.

The digestive organs are perhaps more frequently deranged than any others, and require most careful attention to secure a proper performance of their functions. Constipation, flatulence and anorexia are the most common and the most important indications for treatment. If constipation exists alone, a pill of aloes and myrrh taken at night, and followed, if necessary,

by another in the morning, will generally produce a pleasant effect. Another excellent pill under these circumstances is one containing one fifth grain of aloin and one sixtieth grain of sulphate of strychnine. Two or three of these may be taken at different times through the day, if one at night is not sufficient. The object to be aimed at is to secure an easy movement of the bowels each day, unaccompanied by nausea or griping, by means of small doses, repeated if necessary, of some not very irritating laxative.

If anorexia, constipation and flatulence are all present, a bitter mixture will generally prove useful. A combination of *nux vomica*, *cascara sagrada*, cardamon and gentian with aromatics is exceedingly valuable under the circumstances.

If anæmia is well marked, iron and arsenic are very useful. If there is no, or only slight disturbance of digestion, pills containing sulphate of iron with carbonate of potash, known as Blaud's pills, with the addition of arsenious acid, produce excellent results.

If constipation accompanies anemia, a pill or capsule containing arsenious acid, aloes, *nux vomica* and reduced iron may be advantageously prescribed.

If neuralgia is a prominent symptom, five drop doses of fluid extract of gelsemium will give relief in many cases. In connection with gelsemium, or in place of it, benefit will often be obtained from the use of sulphate of quinine with extract of hyoscyamus.

If the nervous symptoms are not accompanied by derangement of the functions of other organs, or if they persist after proper attention has been paid to the regulation of these disorders, it is necessary to prescribe remedies which act more directly upon the nervous system. The most useful drugs of this class are bromide of sodium, phosphorus and its compounds, *nux vomica* and arsenic.

The use of arsenic has been already mentioned in connection with the management of cases in which anemia is an important factor. In the treatment of certain forms of anemia it is of great value. But besides increasing the production of red blood-cells, it unquestionably possesses the power also of promoting the nutrition and vigor of the nervous sys-

tem. In combination with iron and nux vomica it is exceedingly useful.

The utility of phosphorus as a nerve tonic has long been recognized. A combination in pill form of one one hundredth grain of extract of nux vomica has been used extensively and with excellent effect. One great drawback to its use is the difficulty of securing pills which have been properly made, and in which the original characteristics of the drugs have been retained.

Phosphide of zinc is frequently substituted for phosphorus. One tenth grain of this compound with one fourth grain of extract of nux vomica will often prove of benefit.

The compound syrup of the hypophosphites in another preparation which is very popular with the profession, and which has positive value as a nerve tonic.

As a palliative agent, to produce sleep, to equalize the circulation and to relieve the condition of nervous instability, commonly called nervousness, no drug is more useful than bromide of sodium. This salt is preferable to the other bromide because it is less unpleasant to take and is less irritating to the stomach, while at the same time it is not inferior in therapeutic value. In prescribing this very valuable drug, one should never forget that it does not increase the strength or nutrition of the nervous system. It should not therefore be relied upon for continuous prolonged administration to the exclusion of other remedies. On the contrary its use should be supplemented by the administration of general tonics and of special nerve tonics. Iron and arsenic are especially well adapted for this purpose.

In conclusion the following propositions are presented :

First—At the time of life when the menopause occurs, the various organs of a woman's body are likely to be in a state of depression as regards either their nutrition or their functional activity, so that the normal equilibrium of healthy action may be easily disturbed, and abnormal action, the manifestation of disordered function, may be inaugurated and perpetuated.

Second—The cessation of menstruation is an event of great physiological importance, and is perfectly competent to pro-

duce grave disturbances of the nervous system, if any predisposition to them already exists.

Third—The more common disorders of the nervous system occurring under these circumstances are functional in character and are associated with disturbances of functions of other organs, and especially of the digestive, circulatory and hematopoietic systems.

Fourth—In their treatment attention should first be paid to improving the general nutrition of all the tissues of the body, and restoring each organ to its normal activity.

Fifth—If, after all the other organs have resumed the proper performance of their functions, symptoms referable to a disordered condition of the nervous system still persist, recourse must be had to remedies which act directly upon the nervous system, either by improving its nutrition, or by modifying and regulating its action.

PELVIC CELLULITIS.

BY J. H. TOWNSEND, M.D., NEW HAVEN.

The cellular or connective tissue is found throughout the pelvis, supporting the different structures and occupying the spaces between them. It is very abundant about the lower segment of the uterus and upper part of the vagina, extending between the layers of the broad ligaments. We also find it between the vagina and bladder, bladder and abdominal parietes, vagina and rectum, rectum and sacrum, and about the iliac and psoas muscles. Between the upper two thirds of the uterus and the peritoneum very little, if any, is to be found.

This areolar or connective tissue is a fatless tissue, made up of interlacing fibres whose meshes are easily distended and permeated by fluids. It contains the nerves, blood-vessels, and lymphatics distributed in a very tortuous manner, and from its peculiar sponge-like formations is capable of a considerable degree of traction, as in pregnancy, and displacements of the uterus. It is to an inflammation of this tissue that the name pelvic cellulitis has been given: This term is perhaps too general, as under its head would be included even rectal and psoas abscess; but, as there have been many theories regarding the nature and cause of the disease, so the nomenclature has been varied. Some French writers have called it para-uterine phlegmon and para-uterine cellulitis, including under this term only inflammation of the cellular tissue at the junction of the uterus and vagina and between the layers of the broad ligament, all extensions of the inflammation to the surrounding tissue being regarded as complications of the original disease. This is the view Thomas takes in his work on Diseases of Women.

Cellulitis is generally regarded as a secondary disease, due

to some cause to be found in the uterus, tubes or ovaries. Dr. J. Matthews Duncan claims that all cases of cellulitis are secondary; while Emmet thinks that, what is generally regarded as the effect of uterine disease, is in reality the cause; that the cellular tissue being rich in blood-vessels which supply the uterus, any traction on them as in pregnancy and displacements, which would diminish their caliber or interfere with nutrition, would cause an inflammation of the uterine organs. He says that we may have metritis exciting cellulitis in the puerperal state, but denies that we ever have it under any other circumstances.

We find, according to different statistics, that childbirth and abortion furnish from forty-four to seventy-seven per cent. of all cases; and the latter figure is not too high, as the disease is rare except as it follows parturition. It is rarely that we find a multipara who does not show some evidence of having had the disease. Hart and Barbour state: "The split cervix so common in women who have borne children, is almost always associated with cellulitis at the base of the broad ligament."

In child-bearing women the usual cause of cellulitis is the absorption of septic matter from a torn perineum, vagina or cervix, being associated with an evident septicemia. The poison, entering by means of the abrasion in the genital canal and being carried along by the abundant lymphatics and blood-vessels in the cellular tissue, gives rise to an inflammation of the tissue.

Cellulitis, like all other inflammations, has three stages: First, congestion; second, effusion; third, resolution or suppuration. Resolution is the more common termination, the attack often passing off, leaving no apparent trace behind; or it may result in the formation of cicatricial tissue, giving rise to a pathological displacement; if in the broad ligament to a lateral version, or if in the utero sacral to an ante flexion with its consequent dysmenorrhea and sterility. It seldom becomes chronic, but any one of its complications, as peritonitis, endometritis, ovaritis or salpingitis may remain, conveying the idea that the original complaint is chronic.

On the other hand suppuration may take place, forming

large abscesses, which may open into the bowel, bladder, vagina, uterus, urethra or pelvic cavity. The latter result, however, is fortunately rare.

In the acute puerperal form of the disease the patient is generally taken sick on the third day, seldom later than the fifth, with a severe chill, followed by a rise in temperature, the thermometer registering 103° or 104° . Some pain may be felt in the abdomen, but pain is not apt to be a prominent symptom. The pulse is accelerated and, if the attack be severe, there will be some tenderness over the abdomen. Sometimes tympanitis is present; but, if there is much pain or tympanitis, the disease is probably complicated with peritonitis. The same can be said as regards vomiting. If the disease progresses favorably, resolution will usually take place in seven or eight days. The continuance of the fever for several weeks indicates the formation of pus. After exudation has taken place, a tumor or simply a fullness will be discovered in the broad ligament. This may not be limited to the broad ligament, but may extend down into the iliac fossa. The thigh will likely be flexed. Per vaginam a bulging will be felt at the side of the uterus, generally pushing it to one side. The uterus is usually immovable. The exudate may be slowly absorbed or may suppurate. The onset of suppuration is attended by acute pain, chills and high fever. Fluctuation may then soon be detected.

On December thirty-first last I was called to see a patient, multipara, who three days before had given birth to a child, without the aid of a physician. She had had a severe chill and on my arrival I found her with a temperature of 104° , pulse one hundred and twenty, complaining of intense headache and backache. She complained of no pain in the abdomen, nor could I find any point of tenderness there. The perineum was not torn and the family were quite sure that the placenta and membranes had come away entire. As la grippe was then prevalent, I was in some doubt whether I had not a case of that disease to deal with, rather than one of septic fever.

Two days later I was able to discover some tenderness in the left broad ligament, although she complained of no pain.

Her temperature gradually declined and she showed so much improvement that on January fifth I ceased my visits, as the family (for pecuniary reasons) were opposed to my making any unnecessary calls. Her afternoon temperature was then 99°, with no abdominal symptoms. I left directions for her to remain quiet in bed for several days longer and to call me if there should be any change. Nine days later (January fourteenth) I was again summoned. Since my last visit she had gotten up and attempted to resume her household duties. I found her with a temperature of 103.5°, some pain and considerable tenderness in the left iliac fossa. A few days later I could make out a mass of induration in the left broad ligament, extending down into the iliac fossa. Per vaginam the tumor could be felt at the left of the cervix. The uterus was immovable, but not displaced. Her condition remained unchanged for nearly a week, when there was a discharge of bloody pus from the uterus showing that the abscess had broken into that organ. At the same time there was some tympanites and extension of the tenderness to the right side, so that I feared lest my patient would have a general peritonitis; but a turpentine stupe relieved the tympanites and the tenderness soon disappeared. After the discharge of pus she made a rapid recovery, resuming her household duties in a few weeks. The only inconvenience she now suffers is a slight pain over the left ovary at the menstrual period, due no doubt to a binding down of the ovary, to the psoas muscle. I relate this case as well illustrating the disease under consideration. The fact of her having a relapse shows the necessity of remaining quiet for some time after the apparent subsidence of all symptoms. If this patient had done so, it is probable that suppuration would not have taken place.

The evacuation of pus into the uterus is not the usual course for it to take, into the vagina or rectum being the commoner one.

Cellulitis is to be differentiated from pelvic peritonitis, hematocele and uterine fibroids. To distinguish it from peritonitis is the only one of these that presents any difficulty. In some cases it is very simple, while in others it is extremely difficult, if not impossible. Some writers maintain that cellu-

litis never exists alone, but is always associated with some peritonitis; still there is enough evidence to prove the contrary. As cellulitis generally ends in recovery we have to rely for proof of its existence on clinical history. Dr. Thomas, who has examined the records of a number of autopsies, finds only two uncomplicated cases. The distinction from peritonitis is important, on account of its bearing on the prognosis and treatment; peritonitis being the much graver disease, both from its effect on life and the results which it may leave behind long after the disease has passed away. Peritonitis also admits of less active treatment than cellulitis. Many of the uterine applications, or even douches, which we might employ in the latter disease, would be liable to produce a fatal termination in the former.

The etiology of cellulitis is important to the diagnosis, cellulitis being, as already stated, essentially an acute, septic disease, following childbirth or abortion. Peritonitis is not a septic disease, except that in septicemia we may find the two associated by reason of an extension of the inflammation to the peritoneum. Cellulitis may be otherwise distinguished by its lateral position, absence of the severe pain that is present in peritonitis, firm effusion at the side of the uterus, bulging into the fornix. Vomiting is a less prominent symptom and the symptoms in general point to a less grave disease.

The fact that the disease is septic in origin would indicate that prophylaxis is the most important part of the treatment. Strict cleanliness should accompany all obstetrical work—cleanliness of the obstetrician and all his instruments. Frequent bathing of the hand, the avoidance of all unnecessary vaginal examinations during labor, and the use of the antiseptic douche are to be insisted upon.

The curative treatment includes absolute rest, opium to relieve pain and quiet the nervous system. The diet should be mild and nourishing, milk and beef extracts with tea or coffee if desired by the patient. Antiseptics and quinine in full doses are to be used, if indicated. The bowels are to be kept open by mild laxatives. If seen before effusion has taken place, ice might be applied to the abdomen, to try and cut short the disease, but if this is not possible, hot poultices

and douches should be employed. As soon as suppuration takes place and abscesses form, these should be treated like abscesses in other places, according to the principles of surgery.

TRACHELORRHAPHY.

BY P. H. INGALLS, M.A., M.D., HARTFORD.

Trachelorrhaphy as first suggested by Dr. E. C. Dudley of Chicago, or hysterotrachelorrhaphy, the amended name suggested later by Dr. Paul F. Mundé of New York, is the technical term now in use to designate the operation for the surgical repair of lacerations of the cervix uteri.

This operation has been a fertile ground for discussion for a number of years. It was at first very slowly taken up by the profession, has had its period of being universally condemned and of being universally praised, and after all that has been written and said concerning it, it has at last been recognized as one of the regular operations of gynecological surgery, with its proper indications for being performed, and we confidently look to its successful result for the sure relief of certain conditions peculiar to the female sex.

At this time, while we are celebrating the centennial of our society, nothing could be more appropriate than to look for a few minutes into the early history of this operation, which has not yet celebrated its thirtieth birthday.

To Thomas Addis Emmet is the profession the world over indebted for first recognizing this lesion and first devising surgical means for its relief, thereby opening up an entirely new field in gynecological treatment and establishing a classification on scientific principles of a large percentage of all gynecological cases. No better description of the way he first made his discovery, drew his conclusions and devised his operation, can be given than his own, which I have often heard him tell and which he printed in the American Journal of Obstetrics for 1874.

"Nov. 27, 1862, I first operated for the relief of a double lateral laceration of the cervix by freshening the surface and

bringing together the anterior and posterior flaps with interrupted silver sutures. This patient had been an invalid for several years before coming under my care and had been treated for menorrhagia and hypertrophy of the uterus with an extensive erosion. She was under size, of a naturally delicate constitution and after a severe and protracted labor, with difficulty, had given birth to a large child. Her general appearance indicated incipient phthisis, but no evidence of a tuberculous deposit could be detected. The uterus was some four inches in depth and an erosion extended about two inches in diameter over an enormous cervix. With great care this erosion had been healed several times, by maintaining the recumbent posture for a sufficient length of time, but a relapse to the former condition recurred in each instance shortly after beginning to exercise by walking. I had almost despaired of being able to offer her any permanent relief and attributed my want of success to the condition of her general health. While making a digital examination one day I was puzzled to account for the great width of the cervix in comparison to that of the body beyond, and a condition I had for the first time appreciated. I placed her on the left side and with Sims' speculum brought the cervix into view. I drew the posterior lips forward towards me with a tenaculum, but with no special purpose, when I was surprised to observe that it had nearly decreased to half its previous size. On lifting up the anterior lip with a tenaculum in the other hand, so as to bring the two portions in approximation, the outline of a cervix presented, of nearly a normal size. The difficulty was at once apparent, for the parts had rolled back within the uterine canal and a deep lateral fissure became evident, which extended on each side entirely through the cervix and beyond the vaginal junction. On separating the flaps and forcing them back to their former position I saw the tissues gradually roll out and the cervix again present its previous appearance. There could then be detected no appearance of laceration, and with the reduplication of vaginal tissue over the sides of the uterus, as I have already described, the cervix presented a normal length above its apparent junction with the vagina. The remedy at once suggested itself; the operation was per-

formed with the aid of my assistant, Dr. G. S. Winton, and I believe Dr. T. G. Thomas was also present. On completing the operation the uterus was five inches in depth; it rapidly reduced in size and in time all evidence of local disease subsided; but she never entirely regained her general health. Some seven years after the operation her family physician detected a tubercular deposit and she died of phthisis within a few months, having been ten years under my observation. For two years previous to her death she had resided abroad, but as a friend I was kept advised of her condition, and she kept free from uterine disease. I am fully satisfied at the time of the operation her position was so critical that it would have been but a question of a few weeks before a tuberculous deposit would have taken place. Although she never recovered fully the loss of vitality to which the injury had reduced her, yet her life was beyond question prolonged many years by the operation."

Now then we have told us in a concise way the history of the first operation ever performed for the relief of lacerated cervix. The history is a simple one and so plainly are the indications pointed out, so easily was the indication for the operation discovered, that we can only wonder it was not discovered earlier. To Emmet none the less belongs the praise and all of it for showing the profession this procedure and so long as gynecology has its place in medicine, praise will be given to him for his genius and skill in putting into our hands this simple and effective means of relief to suffering woman.

Since that first operation in 1862 the operation has been performed times without number and it has been condemned as useless by many men, has been indiscriminately performed by many others who have failed to realize the indications for it, and has now become established in its proper place as a recognized surgical procedure after the careful work with it by men who have followed carefully the time indications for its performance, have performed it with some other object in view than the simple closing of a laceration, and who have been more than satisfied with the results, both immediate and remote, obtained from it.

While we probably all recognize the fact that nearly every

woman who gives birth to a child, of necessity does some damage to the integrity of the uterine tissue, it is only after a careful investigation into the nature, significance and extent of those damages, that a proper understanding can be arrived at of what is necessary to be done for their relief. By no means is it necessary to repair every cervix that is lacerated and the operation has received much condemnation by men who, expecting to obtain great and glorious results and relief from all sort of symptoms when perchance they discovered a slight solution of continuity in a woman's cervix, have drawn it together with sutures, and have been disappointed in the result.

The frequency of laceration of the cervix uteri is somewhat astonishing. Unfortunately we have no statistics which are of value to show us exactly what proportion of women who have borne children have suffered from a laceration. We can only take clinical figures of hospital and dispensary work and base our figures on the proportion of all cases of women who apply for treatment for diseases peculiar to their sex. From carefully compiled tables to which I have had access it is estimated that of all women applying for relief thirty-two and eight tenths per cent. were suffering from laceration of the cervix. Very many of the cases heal spontaneously and are never seen by the physician and an absolute recovery is obtained by the patient before completing her lying-in period. In any case when a slight laceration takes place, and the discharges are kept away by natural drainage, no sepsis occurring, it is very easy to see how nature will repair the damage with no feelings of discomfort, then or later, to the patient, but it is in the cases where nature is not so kind, and where pathological conditions do develop subsequent to parturition, that the gynecologist has his attention called to the condition and he must be ready to offer a sure means of relief. *It can then be stated that the cases demanding the operation are those in which some pathological change has occurred in the uterine tissue, nutrition prevented or some reflex symptoms have been set as a result of the injury.*

Let us then consider what takes place when a cervix is lacerated. The causes leading to it are simple and quite well

understood. Any disproportion which may take place between the natural dilatation of the uterine tissue and the expulsive power of the pains can exert a large influence in its causation, such as a rather firm unyielding os in a woman of strong muscular development. In cases such as this it frequently happens that the firm, unyielding head is pushed through the cervix before the proper dilatation has taken place. In cases of tedious labor, the os dilating slowly and pains not very forcible, how very common it is for the accoucheur to get tired of waiting for dilatation and apply the forceps high up and drag the head of the child through the os before the parts have yielded sufficiently for such an operation. Many cases are also seen which are directly attributable to abortion, for here the contents of the uterus are expelled when the parts are firm and rigid and little or no softening has taken place. Taking it for granted then that from some one or other of these causes the cervix has been lacerated, what state of affairs obtains? In some of the cases, as I have before remarked, free drainage takes place, the recumbent posture of the woman for two weeks after confinement seems to hold the parts in perfect approximation and the tear is healed without giving rise to a single symptom. There are still other cases where the laceration is not extensive, and where after getting up the uterus will be found to have undergone involution in a kindly manner, no deposit of cicatricial tissue in the angles of the lacerations. No eversion or erosion of the cervical mucous membranes and no deposit around the parts as a result of inflammation; only the simple, slightly lacerated lips will be seen. These cases can safely be let alone as long as we see that our patients keep in perfect health and can have a proper performance of their sexual functions. In a large number of cases of labor, however, there will be noticed at the termination of the confinement rather a free flowing; at the end of the second or the beginning of the third day a general feeling of discomfort, general pains and aches in various parts of the body, a chilly sensation, a slight rise of temperature, a furred tongue and some disturbance of the stomach. This will, in the majority of cases, be attributed to the coming in of the milk. Very many of our practitioners believe and teach that

the establishment of the mammary secretion is as a rule attended with febrile action and almost all of our old nurses are thoroughly imbued with the idea that a patient must expect a certain degree of discomfort from the so-called milk fever on about the third day. I believe this is a popular error and I have done what I could to disabuse the mind of my patients and such nurses as come under my control, of such an idea. I believe labor to be a normal physiological process and should not be attended by any febrile action. The establishment of milk is part of this same physiological process and if the case be a normal one the functions of nursing should be established without any occurrence of abnormal signs or symptoms. What happens in a majority of cases, I believe, is something like this. At the time of labor, when the os has not fully dilated, the pains may be good and strong, the patient is encouraged by both physician and nurse to help all she can and bear down with all her force; this she does and the tissues of the cervix, being at this time well thinned out, give way to a quarter or less extent at the instant of the passage of the head. The increased flow noticed after labor undoubtedly proceeds from the wound in the cervix. Now in these cases we take it for granted that the position of the tear is such that the natural discharge does not come away perfectly from the laceration and about the third day we get the symptoms of the so-called milk fever, decomposition begins and there is started a mild form of sepsis, from which the febrile attack starts. A slight cellulitis may follow at once and from this easily can come a localized peritonitis. At this point the efforts which nature puts forth to repair the injury come to a standstill, the process of involution of the uterus rests, the circulation becomes impeded in the vessels, and the uterus remains large and heavy. There will be noticed a general pelvic discomfort on the part of the patient, the secretions of milk may be interfered with and she does not make a good "getting up". We will suppose, for example, that this condition has not received local attention, as such is the history of all the cases which come to us later for operation. What is the general history of such a case? The process of involution having become arrested, the uterus remains large and

heavy and consequently settles lower and lower and comes down to the floor of the pelvis; as it is settling the lips impinge on the vaginal walls and the flaps caused by the laceration are pressed wider and wider apart and oftentimes, from the inflammatory process which is going on in that region, lymph is poured out, bands of adhesion are formed and the organ becomes fixed in this position. About the same time structural changes begin to take place in the organ. The uterus is spongy and the mucous membrane lining the cavity is soft and undergoes some degeneration, generally fungous in character. It will bleed readily. There is a constant discharge from it, often of a bloody character and very irritating in its nature. In the cervix the changes are still more marked. As a result of the laceration there is a rolling out of the flaps and the mucous membrane, which is cervical, is so evicted that it becomes vaginal. The whole cervix seems large and spread out, and, as has been remarked by one writer, has the same relation to the body of the uterus as does the top of a mushroom to its stalk. The exposure of the delicate cervical membrane to the secretions, and the rolling out of it in the vagina very quickly causes an erosion covering often its entire surface. The mucous follicles begin to undergo cystic degeneration and feel like hard nodules under the skin. Nature in attempting to repair the damage has, by this time, caused cicatrices to form in the angles of the laceration, the nutrition of the parts is wholly perverted and no more fertile starting-point for epithelioma can be found than right in these very cases. These, too, are the cases of ulceration of the os of the older practitioners, and I regret to say that very many of them come to us at the present day relating a history of months of treatment for ulceration by applications of astringents and caustics, and had it not been for the important discovery of Emmet in 1862, we might have been to-day drifting along in the same blind way with the same unsatisfactory results.

The train of symptoms presented by these cases is an interesting one and can be divided into two classes; those referable to the lesion itself and of a local character, and those which are reflex in character. Of the first class the most important noticed will be pain in the back low down between

the hips, dragging, bearing down, a great feeling of weight and fullness, pain in the sides, pain in the groins, pains running down the legs, more or less constant desire to pass water attended by a greater or less degree of irritability of the bladder, constant constipation, hemorrhoids, and a great deal of leucorrhea with abundant discharge of a very irritating character, which may often be bloody. There may, and generally will, be a perversion of the menstrual function dependent upon the structural changes which have taken place in the endometrium and upon the large spongy uterus. As a rule the flow is too often ; too free, accompanied by a great deal of pain and by serious disturbances to the nervous system, and not infrequently, at intervals through the month, will be noticed a bloody discharge, almost as much in quantity as the regular period. There is generally a marked loss of sexual appetite and the accomplishment of the act is accompanied by great pain and sometimes by loss of blood. Patients nearly all complain of a feeling of heat and burning all through the region and walking or standing brings on great discomfort.

The reflex symptoms too are equally well marked and often are of far more consequence to the patient. In fact, in many cases patients are led to consult a physician simply for the relief of these very symptoms and in numerous instances has it been noticed that after drug upon drug has been given for the relief of neuralgia, headache, dyspepsia, and other troubles of like nature, a patient has come into the hands of some man who has recognized the influence of laceration of the cervix upon the sympathetic system, and who has been able by well directed treatment to remedy the offending evil and effect a cure without calling materia medica to his aid. These sympathetic or reflex symptoms are believed by Emmet to be the result of perverted nutrition and he believes they are brought about entirely through the sympathetic system. Certainly clinical facts seem to wholly bear him out in this idea. Would the scope of this paper permit I might give in detail the history of many cases of functional trouble with the special organ, as well as cases of neuralgia occurring in all the regions of the body, which have been traced directly to a lacerated cervix as the starting-point of all trouble. In nearly

all the cases we see headache as a prominent symptom, and this headache is generally referable to the back of the head. I have often seen marked disturbances of vision occur, and have had patients who consulted oculists of repute and who have been told that there was no lesion in that region, come to me and I have found sufficient trouble at the seat of a laceration to account for this reflex trouble. Perhaps no more marked cases can be found than those in which the functions of the stomach and intestines are entirely perverted, and very many cases of nervous prostration have been traced directly to a laceration of the cervix uteri.

I know I have not drawn on my imagination in setting forth the symptoms which we find in patients who are suffering from this lesion, and I am glad that when we find them we are able to say to them that a positive cure is possible, for I am confident that a properly performed trachelorrhaphy offers to these women a relief from all their troubles. If this is denied, then we have a woman passing on and becoming more and more of an invalid after living a life of misery and suffering, very often running down all the time, till finally as a result of impaired general health, perverted nutrition, and neglected lesion an epithelioma develops and her life is doomed. If for no other reason than to guard against the possibility of cancer I believe we should see to these cases to the very best of our ability and before the damage done is too great.

The technique of the operation has not changed materially since its inception and the indications for its performance remain about the same as for years past, but it is necessary in almost all the cases to put the patient through a course of preparatory treatment before attempting the surgical procedure, in order to gain the best results. As a rule when the cases come into our hands we find more or less thickening, not only in the tissues of the organ itself, but in the cellular tissue adjacent, and should we go to work at once to repair the injury, the very force required to pull the uterus down low enough to make the necessary denudation and pass the sutures, and the cutting necessary to prepare the parts for a proper bringing together, might light up the old inflammatory

process, and close upon our operative work we might be confronted with a smart attack of cellulitis, running into a pelvic peritonitis and from that spreading into a general peritonitis, which might give us a fatal result. Fortunately very few such cases are on record, although we cannot deny that such a result has happened even to men of good repute as operators. The surroundings of the patients and their daily habits will have to be taken into consideration, for this trouble is one that happens alike to the rich and poor, to the woman compelled to earn her livelihood by her own exertions as well as to the woman who can favor herself in every possible way and be taken care of without any exertion on her part. She must be cautioned to cease from any laborious work, from standing at length on her feet, must be careful about lifting heavy weights, the idea being to put a stop to any effort which will tend to cause the uterus to sag down any lower in the pelvis. The hot douche must be given regularly, with the patient lying on the back, the temperature of the douche to approach 120°F. This will tend to relieve the engorgement of the pelvic vessels and help restore the circulation in the pelvis to its normal condition. If the mucous follicles in the cervix have undergone cystic degeneration they will have to be punctured and drained and to help along with the process of absorption of the inflammatory deposit, regular applications of Churchill's tincture of iodine, followed by pads of cotton saturated with a thirty per cent. solution of boro glyceride will be of service. The applications should be made twice a week and between their use the persistent use of the douche must be insisted upon. The use of the cotton, too, will serve another purpose. It will lift the organ up on a higher plane and thus aid us in our efforts to relieve the pelvic engorgement.

When this treatment has been persisted in, before long we will find the organ mobile and the tissue in good condition to undertake the surgical repair. Any attempt to repair the laceration before we have gotten the organ and adjacent tissue in good condition will almost surely be attended with a failure of union, even if we are fortunate enough to escape an attack of inflammation.

It seems almost superfluous to describe the operation in detail, for there is probably not a physician present who has not witnessed it; but there are several details in connection with it which must not be lost sight of and upon which in a great measure its ultimate success depends. In the first place a most important step is the denudation of the flaps preparatory to closing them. I have before spoken of the cicatricial tissue almost always to be found in the angle of the laceration, where nature has attempted to repair the injury. This tissue plays an important part in the causation of the various reflex symptoms, from its interference with the sympathetic system, and it is the most important step in the whole operation to see that it is wholly and absolutely dug out from the angles of the laceration before the flaps are brought together. While Emmet has for years taught and written concerning this plug of tissue and has repeatedly shown that the operation does not accomplish its desired object unless its removal be thorough, it is surprising to see how little it is spoken of by all articles on the subject of lacerated cervix in the standard text-books. I remember well, during my service in the Woman's Hospital in New York, to have seen him deliberately cut open the lips of a cervix which had been closed over this tissue, and in which the relief to reflex symptoms had not been obtained, and carefully dig it out and close the cervix again, with a much more satisfactory result. One other point is the great care which must be used in placing the sutures. They must so be put in, that when the flaps are brought together there will be obtained a solid apposition of the denuded surfaces, the simple stitching together of the outer edges of the laceration is so apt to leave pockets in which discharges can gather and set up trouble.

I have not mentioned in this paper the primary operation for closure of cervical laceration. It has been done, but mainly for the relief of severe and protracted hemorrhage after labor, where the cervix has been torn and some damage done to the circular artery. The patient has been put in Sims' position and the torn fragments brought together with silk or catgut and the hemorrhage thus controlled. I do not believe it will ever be adopted as a regular procedure, for often we have no

direct evidence at the time of labor of the laceration. I do not believe it good mid wifery in the absence of symptoms to make a sufficiently thorough examination immediately after labor to see if the cervix is intact and unless absolutely necessary it is not policy to close it then, for you cannot get a perfect apposition of the parts.

I have not felt it necessary to bring forward the recital of any cases to substantiate the statements I have made and the recital of a long list of cases with their histories is apt to be tedious and would prolong the reading of this paper far beyond its proper limits. It will probably be sufficient for me to affirm that a clinical experience of twelve years and the good fortune which has given me a very large number of these operations to perform only leads me to state that facts in my own experience justify all my statements and I believe that the operation first given us by Emmet in 1862, when followed up with strict attention to detail, will yield as glorious results for the relief of suffering womankind as any operation now recognized in surgery.

Dr. Beckwith, in commenting upon the subject, took the ground that Trachelorrhaphy may prevent the development of cancer of the uterus.

This brief paper furnishes fresh evidence that, while cancer of the uterus may develop without preceding injury of the cervix, it very rarely does so; that it frequently follows laceration as a sequel, and that trachelorrhaphy may prevent its occurrence by removing all sources of irritation.

"In the case of cancer, which in spite of numerous and careful examinations, are believed by many pathologists to be parasitic, or conveyed by some form of infection from without or of dyscrasia from within, is it not a truer view to regard them in each case, not originally engrafted upon or invading the body, but springing up as a perversion of local growth, sometimes at certain periods of rapid development, as in the sarcomata of the bones and joints of children, but most particularly at the periods of involution, disuse and degeneration? If this view be correct we shall in many cases find that the wide striking, and at first sight almost incredible per-

version from the normal structure of the part is not so sudden or "heteroplastic as it seems, but originates by a gradual increase from minor perversion of growth which we call inflammatory or benignant. As cases in point, I would adduce the development of cancer of the skin from warts, the relation of cancer in the breast to Paget's disease of the nipple, the superinvention of mycosis fungoides upon extensive superficial dermatitis, the connection of carcinoma linguæ with syphilitic or other leucodermic patches, of labial cancer with smoking, of cancer of the glans penis with phimosis, of carcinoma of the gall-bladder with calculus, and lastly, the remarkable fact that the favorite seat of cancer of the alimentary canal is at the narrowest passages where friction is, and irritations are most probable and frequent". Pye-Smith. Another illustration is the development of cancer in the lacerated cervix uteri, when, as is so often the case, a state of constant irritation is set up, by eversion, erosion, and follicular degeneration.

"We must admit our lack of any positive knowledge in regard to the causes of malignant disease of the uterus. But that epithelial cancer arises frequently from perverted nutrition, in the attempt to repair injury, cannot be questioned."

"I will place on record the statement to the effect that I have never known a woman to have any form of epithelial cancer of the uterus unless she had at some time been impregnated."

"Moreover, I believe that nearly all, if not all cases of epithelioma, or cauliflower growth, have their exciting cause or origin in a laceration of the cervix. It springs from the effort to repair a local injury, as I have previously stated, and may develop from a recent laceration, or it may come after the change of life."

"With our present limited knowledge on this subject I should be sorry to be instrumental in establishing that epithelial cancer of the uterus was proof beyond question, of a former pregnancy.

"No rule we are told is without exception, and this may be but an exception to the rule. One fact, however, we may accept beyond question, and that is, the occurrence of this

form of malignant disease in a woman who has never been impregnated must be exceedingly rare." Emmett.

In the following case cancer developed in the virgin uterus. Its rarity is indicated in the above quotation from Emmett and justifies me in giving it in full :

Miss ———, twenty-two years of age, American, consulted me in June, 1884. Eighteen months ago she began to have a colorless leucorrhea and at the same time menstruation began to be painful.

She consulted a physician, who without an examination told her that time would cure both the leucorrhea and the dysmenorrhea.

One year ago she had a severe flooding. Six months ago she had another severe flooding, followed by a rusty or bloody leucorrhea and persistent menorrhagia. She has gradually lost flesh and strength.

She has been travelling most of the time for the last six months and has consulted a number of physicians on account of the discharge, the excessive loss of blood, and the dysmenorrhea.

They did not examine and told her, making light of the case she thought, that time would "right everything".

Her father and mother are in good health.

Upon examination I find the vagina narrow with virginal orifice, the anterior wall thickened and rigid from disease, and also the fundus of the vagina.

The ovaries cannot be felt. The base of the bladder is thick and rigid and she empties the viscus slowly and with considerable straining.

The uterus is immovable. The utero vaginal cervix is destroyed by ulceration of a cancerous nature, presenting a ragged, bleeding surface with irregular, brawny margin.

The infiltration and ulceration have also invaded the vagina all around the cervix, and the anterior vaginal wall, with the base of the bladder. There is also infiltration of the cellular tissue of the broad ligaments.

It is too late to attempt either high amputation or hysterectomy. The case ran on with little pain and hemorrhage until it ended fatally in September of the same year, about eighteen months from its beginning.

Skene writes: "Age is the most potent factor in the etiology. Before puberty, indeed before the age of twenty, cancer is unknown or phenomenal. I have seen two cases—both ending fatally—where the patients were in their twenty-seventh and twenty-eighth year respectively; and the sister of the last named died of cancer of the uterus in her thirty-first year."

The following case, whose history I will also give at length, bears testimony to the statement that cancerous degeneration occurs in the lacerated cervix:

Mrs. J— H—, twenty-seven years of age, Scotch, married eight years, mother of two children. She has been a widow four years. Deliveries were normal. She has had no abortion nor miscarriage. Menstruation has been excessive for three months and unusually painful. There has been considerable mucous leucorrhea for months. During the last two months there has been a dull aching pain, "like a bealing", in her words, in the right side of the pelvis, which has often kept her awake. Three times sharp, colicky pain has seized her in the pelvis and extended to the stomach, causing vomiting each time, and relieved only by morphia used hypodermically. Each attack lasted hours. She can give no explanation of these attacks. She has not been very much worried by these attacks of pain and by the increased loss of blood, but wishes to know if there is anything wrong inside. Walking causes a little pain in right side of pelvis. The vagina is relaxed and large at the fundus, as is so often the case in cases of uterine hemorrhage with expulsion of clots. The ovaries cannot be felt. There is a bearing down feeling in the bladder after micturition. The uterus is movable three and one quarter inches long. Axis normal. Fundus is tender and endometrium bleeds from passage of sounds, indicating marked chronic congestion. Laceration of cervix on the right side to the vaginal junction, with chronic granular erosion of both lips. She is anemic, but otherwise in fairly good general condition. I told her that the hemorrhage could be lessened by cureting the endometrium, followed by the use of ergotine and iron, but that trachelorrhaphy was clearly indicated and ought to be done as soon as possible.

The above details were obtained on the sixth of December,

1888. From that date I lost track of the case until April 26, 1892. Soon after her first visit in 1888 she began to lose more blood at her periods, which lasted ten or twelve days, four days of profuse flow, with six to eight of slight oozing. She now loses blood regularly, but the oozing is almost constant and has been so for nearly a year. She is now very anemic and weak. There is slight pain, more or less she says, in right side of pelvic and in sciatic nerve of right side, and her back "is awful sore". The pain is not severe nor steady. There is no offensive discharge. The uterus is immovable and the cervix is the seat of a hard cancerous mass, now ulcerated and bleeding freely. Moreover, as well as I can judge, the disease extends above the os internam and upon the fundus vaginæ, so that it is too late to attempt either supra vaginal amputation or hysterectomy.

Thinking over the case now I do not believe I could have diagnosticated carcinoma at her first visit in 1888.

Perhaps trachelorrhaphy would have prevented the occurrence of cancerous degeneration, perhaps not.

I am often asked if every laceration of the cervix uteri ought to be sewed up.

My answer is no, if there is no erosion, no eversion, no follicular degeneration, and no enlargement of the uterus. It matters not what we call the enlargement, subinvolution, chronic congestion or congestive hypertrophy, it is the same condition and due to the injury.

But if one of the four conditions be present my answer is yes, because in no other way can a cure be effected and by operation the development of cancer in the injured tissues may be prevented.

PELVIC HEMATOCELE.

BY ROBERT LAUDER, M.A., M.D., BRIDGEPORT.

Mrs. S —, a Canadian by birth, was admitted to the Bridgeport Hospital November 14, 1891. About fifteen months prior to this date she was delivered of her sixth child, had a normal labor and returned to her usual household duties in less than two weeks. There was no apparent deviation from her usual health till about thirteen months after the birth of her last child. For the next three months she was not as well as usual, but it was supposed to be due to her many household cares and to menstruation, causing debility. She menstruated regularly for the two months after that and still continued to nurse her child. About the third menstrual epoch, before she had flowed any, while washing the family clothing, she lifted a heavy tub, as she had done at other times, and immediately had severe pain in the abdomen, became faint and cold, and vomited. She was promptly put in bed and surrounded by hot applications. Within an hour she began to flow freely but not excessively. The pain became less severe, the shock diminished and the patient was more comfortable. The next day she had so far recovered that she sat up and walked through the house some, but the distress and pain in the lower portion of the abdomen were so continuous and severe that medical aid was summoned. Notwithstanding medication, which was homeopathic, the patient did not improve, except in the mitigation of the pain while under the influence of drugs. Eight weeks slowly passed away and the patient was still in bed most of the time, with no change in her condition for the better. The medical attendant was now changed and my friend, Dr. C. C. Godfrey took charge of the case. Two weeks later, at the request of Dr. Godfrey, I saw the patient in consultation. We both advised that the patient

be removed to the Bridgeport Hospital. Dr. Godfrey had discovered a large and well defined pelvic tumor at his first visit to the patient. We considered the case an unusual and obscure one, demanding careful observation and study. The following two weeks, from November 14 to November 28, the patient was under careful observation. The daily temperature ranged from 99° in the morning to 101° in the evening; the pulse from ninety to one hundred and twelve in the minute. There were pelvic pains, not severe, nausea occasionally and slight menorrhagia. These symptoms had existed constantly for weeks before admission to the hospital.

A physical examination of the patient revealed, after the bowels had been moved and the bladder emptied, a clearly defined tumor in the lower portion of the abdomen extending entirely across the pelvis, which it filled completely. On the right side of the patient near the umbilicus, was another mass or tumor about three inches in diameter, freely movable, hard and globular. It apparently had no connection with the lower tumor.

Per vaginam the hand of the examiner found a firm and elastic tumor which filled the Douglas cul-de-sac and pressed the uterus very strongly up against the pubic bones. The os uteri could only be discovered by crooking the finger and passing it well up under the pubic arch. With the thumb of the examining hand in the vagina and the index finger in the rectum, no tumor could be found in the septum. By conjoined manipulation the uterus could be plainly felt through the abdominal wall and to be nearly normal in size. The uterine cavity was entered with great difficulty by a sound, the point of which was distinctly felt through the abdominal wall. A small hypodermic needle was passed into the abdominal wall of the left side for diagnostic purpose, but without result. It was then tried upon the right side and fifteen minims of a clear fluid slightly tinged with blood were obtained.

What is the diagnosis? Is it a retroverted pregnant uterus incarcerated in the pelvis, filling it up and causing by pressure the condition we find?

The uterus can be quite clearly mapped out above the

tumor. It is nearly normal in size and a uterine sound seems to pass only as far as the fundus of the supposed uterus.

Have we an adherent ovarian cyst? The tumor is immovable, firm, elastic, but does not fluctuate. May it not be a fibro cystic tumor beginning to degenerate and thus causing hectic symptoms more or less marked? Aspiration with a hypodermic syringe gives no result on the left side, but a few minims of rather clear fluid are taken from the right side.

Have we this condition as a result of pelvic inflammation—cellulitis? The tumor in the vagina bulges down in Douglas' space too much for that; the pelvic floor is not cartilaginous, the uterus too high under the symphysis pubis.

Is this a case of extra uterine pregnancy which has ruptured, giving rise to circumscribed peritonitis, with hematocoele? If this were true, would not the case have become even more serious in this length of time—two months from the first acute pain, when she lifted a heavy tub?

If it is a simple hematocoele, the case ought to be nearly well from absorption.

Hematoma it cannot be, because its mass is within the peritoneal cavity and hematoma, like thrombus, is external to the peritoneum.

It affords me great pleasure at this point to acknowledge my indebtedness to the staff of the Bridgeport Hospital, and also to Dr. Charles Ward, formerly of New York city, for their counsel and hearty coöperation in this case.

As a further means of diagnosis it was determined that an exploratory incision ought to be made, further surgical procedure to depend upon the condition found after entering the abdominal cavity.

The patient and her husband having been made fully acquainted with the serious nature of the case and the unavoidable danger, at their urgent solicitation the patient was thoroughly prepared for laparotomy. Assisted by Doctors Godfrey, Porter and Ward I made an exploratory incision three inches in length down the median line. This was at eleven o'clock in the morning of November 28, 1891.

The small tumor near the umbilicus was brought to view in the incision, without difficulty, freed from its adhesions, which

were slight and brought outside the abdominal cavity. It was found to be a greatly enlarged and elongated Fallopian tube whose fimbriated extremity resembled in shape a huge morning-glory, with a firm compressed clot of blood, at least two and one half inches long and one inch in diameter. The incision was now slightly increased downward toward the pubes to facilitate the exploration. Then this greatly enlarged and deeply congested tube of the right side, with its turgid and tortuous blood-vessels, and also the ovary, more than twice the normal size, were ligated close to the uterus and removed. The uterus itself was normal in size and position. The ovary and tube of the left side were normal and consequently were not disturbed.

The tumor, which completely filled the entire pelvis, was free from adhesions—except on the floor of the pelvis. Here the adhesions were so firm and strong that I found it impossible to detach the cyst from its base.

While attempting to break up some of the adhesions upon the left side my finger accidentally pushed through the cyst wall, and some very black, tarry blood clots escaped into the abdominal cavity.

It now became evident that the cyst was filled with these grumous clots and that the cyst itself could not be removed. It was therefore freely opened on the anterior surface and the contents of the cyst, fully three pints of black grumous blood, removed by hand. The interior of the cyst was well cleaned and a large drainage-tube inserted.

The toilet of the peritoneum was carefully attended to, the incision closed, and the cyst walls stitched in the lower angle of the wound, which also inclosed the drainage-tube.

The operation lasted about forty-five minutes. No time was lost in putting the patient into her warm, aseptic bed.

Three hours after the operation the respiration was twenty, pulse one hundred and twenty, temperature one hundred and one fifth degrees. The patient was comfortable with the exception of considerable pain in the line of incision. This was relieved by morphia hypodermatically.

The first five days were uneventful, the temperature not rising higher than one hundred and two and one fifth degrees at

any time, nor the pulse above one hundred and thirty. These highest points of temperature and pulse, it was observed, were coincident with the fact that a quantity of pus, although very small, would be found in the drainage-tube. The tissues had united very firmly around the tube; so much so that considerable force was necessary to turn the tube around and put it back to the same depth.

The sixth and seventh days, December 4th and 5th, were extremely anxious ones and fraught with grave danger to the patient. Scarcely any fluid came through the drainage-tube, nor could the tube be turned without great force. The temperature ran up to one hundred and four degrees; and although the pulse reached only one hundred and eighteen it gave that peculiar hard, sharp, wiry sensation to the surgeon's fingers which is indicative of a rising storm. The stitches next to the tube were removed, the tube taken out, and the index-finger inserted as far as possible. The cavity was thoroughly irrigated and a smaller tube put in. The temperature was now taken and the wound thoroughly irrigated at the same time, every hour for the next twenty-four hours; after that once in two hours for twelve hours more. By this time the crisis had passed, the temperature had fallen to ninety-nine and the pulse to ninety-four.

The case progressed very satisfactorily to complete convalescence from this time.

The tube was removed on the fifteenth day, and thereafter gauze was inserted.

The patient sat up with comfort on the twentieth day and left the hospital for her home at the end of six weeks from the operation.

This very desirable result might have terminated very differently, had it not been for the skillful and untiring attendance, night and day, of Dr. Miles and his faithful assistant, Dr. Bardwell, House-Surgeon and House-Physician of the Bridgeport Hospital. Like true physicians they were ever present when needed most.

Questions and inferences suggested by this case.

Could the diagnosis have been more definite from the history given by the patient, the condition of the patient at the time

and the physical examination? Perhaps, with more experience, a tubal pregnancy first, then rupture of the tube because of the lifting, and subsequently as a result, hematocele, might have been determined. But these things are much more easily seen after an exploration than before.

Ought the patient to have been subjected to the very serious operation, with its grave dangers, when her life was no more seriously threatened? Health had departed for three months and the patient's condition did not improve. It certainly seemed to become more and more in jeopardy. The keenest judgment finds its supreme test in deciding when to do and when not to do.

In parallel cases should laparotomy be recommended? One case standing by itself would decide very little. But the foundation principles of abdominal surgery demand that a patient suffering from septic poisoning, which greatly endangers life, the cause of the septicemia be removed, unless the prospect of life and health are too remote. An almost helpless invalid, a mother of three small children needing her constant care, too poor to secure assistance, rightly prefers great risk of life to such a condition.

If an accurate diagnosis of rupture of a tubal pregnancy could have been made immediately after the patient lifted the heavy tub, would a better result have been probable or possible than that which occurred, in this case? The rupture had taken place and the hematocele was inevitable.

Could a rupture of a tubal pregnancy have caused less danger to the patient or given the surgeon a better opportunity for his art to save the patient's life? Medication is nearly useless in compelling nature to absorb fully three pints of blood from a pelvic hematocele.

ELECTRICITY IN DISEASES OF WOMEN.

BY JOSEPH E. ROOT, B.S., M.D., HARTFORD.

Mr. Chairman and Gentlemen of the Connecticut Medical Society :

It would be highly proper, and perhaps it may be expected on such an occasion as this, that a history or résumé of the work done in this special field, or with this particular therapeutic agent, should be given, but I assure you that it will be very brief or altogether omitted.

It is claimed by some to be one of the "fads" of the day, but I notice that the criticism comes invariably from those who have not tried it faithfully, and I regret to say that there are those, whom it would seem are still prejudiced against what the great majority of practical gynecologists to-day believe to be one of the most valuable agents in the treatment of the diseases of women, viz : Electricity.

The strides made in its use and application medicinally and surgically have only been equalled by those great advances made by it in the commercial world. Formerly used only in certain forms of paralysis and exhibited by quacks, it is now a well-recognized therapeutical agent in the hands of every practitioner. Dr. Cutter was the first to make use of electricity in uterine disorders in 1871, and with Tripier and Apostoli of Paris, and Engelman of St. Louis, we are indebted for our first positive knowledge concerning the extent to which electricity could be made to accomplish certain definite ends in gynecology.

In order to be successful in the use of electricity we must of course have some knowledge of its physical properties, but it is especially true in gynecology that we must have a clear understanding of the difference in the principal currents, and know *how, where* and *when* to apply them, else we cannot hope for great success in their application.

Empiricism in the use of electricity does not count. A mental effect is not difficult of production, but our cases will soon return or go elsewhere unless we succeed further than this, and there is no single agent by which we can accomplish more. Do not infer that I think electricity is a "cure all", far from it, in many cases it may be the only means, but in others simply a valuable adjuvant, for it will not replace a lost perineum or repair a lacerated cervix.

The Faradic current is used more in gynecology now than formerly, not only singly, but in connection with the galvanic current. In cases of flexion and version where there is stasis and congestion, and in that vast number of cases where the uterine ligaments have become stretched and the vulvo vaginal and perineal muscles relaxed, there is no agent which will so increase their tonicity and thereby support a sagging uterus.

The Faradic current being one of alternation, a constant making and breaking with reversion of the poles, it produces a sort of massage of the uterine fibres, where we use an intra-uterine electrode, which accelerates circulation, absorption, and the nutritive processes. And right here is a point in reference to the use of the different kinds of currents to be obtained from the ordinary Faradic coil. The primary coil of short coarse wire gives a current of large quantity and low intensity, and the secondary coil or induced current is of low quantity but high intensity and causes the greatest amount of muscular contraction, but has less chemical action than the former, hence the primary coil has a more marked influence upon unstriated muscular fiber.

Those of you who have not tried it will be surprised at the difference in action upon the uterus by the primary and secondary currents.

As we all know, the mucous membrane of the vagina and uterus are less sensitive than the external skin, and the current of tension which we ordinarily use in topical applications has little effect internally, but the primary current of quantity causes the most pronounced contraction of uterus and vagina, and with the bipolar intra-uterine electrode must be used with care.

*“We no longer ignore the fact to-day that the great majority of uterine inflammations, probably of septic origin, are due most frequently to the retrograde metamorphosis of the uterus, that they are created entirely by uterine subinvolution and that the circulatory troubles, characterized by congestion and stasis, preside over their initial evolution. If the physician interferes, then, by removing obstruction and sepsis at the same time, producing a passive hyperemia, a sort of circulatory drainage; if he combats the primary inertia of this organ, the slowness of the circulation of which gives rise to all the subsequent inflammation, he puts in an excellent treatment which prevents and cures at the same time. Such is the role of faridization, which, applied in the uterus in the proper manner, preceded and followed by an antiseptic injection, produces a sort of interstitial massage, provokes the contraction of all the smooth muscular fibers, excites and hurries the circulation, accelerates the absorption of exudations, and so corrects a languid or perverted nutrition.”

As I have said before, the Faradic current of quantity, (the primary coil) used with a bipolar intra-uterine electrode, is the one that gives the most satisfaction in subinvolution, but the current of tension, (secondary) from the long fine wire of the helix is the most useful in alleviating pain, having its origin in the pelvic visera. And recourse should not be had to the knife in the removal of the uterine appendages for pain until the current of tension has been intelligently tried.

Although we have in the ordinary Faradic current a most valuable agent in the treatment of uterine disorders, it does not equal in general usefulness the galvanic or “straight” current. With this we get chemical action which effects changes in the structure of organs to which it may be applied but the character of the change or action depends upon the pole used. The positive pole is the one at which acids are developed, is *sedative, coagulating*, and therefore “hemostatic, alterative, denutritive and causes a dry, hard scab which even-tuates into a retracted scar”. The negative pole develops the alkalis and is softening, stimulating, hyperemic, hemáhæ-gic, alterative and causes a soft, non-contractile scar.

*Chronic Metritis. Apostoll.

Both poles promote absorption, but the negative is the most powerful and the one altogether used for internal applications when we desire the reduction of morbid growths and neoplasms. But for uterine fungosities and a hyperplastic condition of the endometrium the positive is the pole.

In order to see exactly what changes or effects take place under the action of the two poles I would advise every one who has not already done so to experiment outside the body. Take a piece of meat and insert into it two large steel needles attached to the poles of a galvanic current and see what takes place. You will observe bubbles of gas and froth issuing from around one needle and the tissue about it becoming soft, allowing the needle to be readily pushed forward. Around the other needle you will notice a dark discoloration and in attempting its withdrawal it sticks fast in the tissue, and your steel needle has become black and corroded. Thus will be seen the necessity of always using platinum or gold-plated electrodes when we use the intra-uterine positive pole.

The same phenomena we observe in the removal of small growths from the surface of the body or of superfluous hairs, moles, etc. In the living tissue we have an immediate and remote action. The first is observable at the time of the electrolytic action of the poles, and in the case of inorganic substances and dead tissues ceases with the stopping of the current, but in the living body it is different, where changes occur and processes are inaugurated which continue long after the immediate application. It is thus that we account for the reduction, and in many cases the complete disappearance of morbid growths. Note the vanishing of enlarged exophthalmic goiter with very mild currents of five to ten milliamperes, without puncture of the skin.

A word in reference to appliances. A good battery is, of course, necessary. In the Faradic the essential thing is a good helix and there is none better than the Kidder coil, though expensive, but the Galvano Faradic Company now make a battery which retails for ten dollars that is eminently satisfactory.

Of the galvanic batteries the essential quality is constancy and a sufficient electro motive force. For office use, if one has

plenty of room, or a cellar, the L  clanch  , or ordinary telephone cell is the best, and about sixty of them are required to do a good range of work. For a portable galvanic battery, the Barrett Dry Cell is very satisfactory, but expensive and owing to high internal resistance you do not get a large electro motive force.

Electricity has come into such general use, commercially, that all but small towns are now provided with an electric plant, which can be utilized for surgical and therapeutical purposes with wires from it in your office. In May, 1888, while repairing a cautery battery it occurred to me that if I could only control and regulate the current of electricity that was flowing through my office from the street circuit I should then always have electricity "on tap" and be saved the constant care of changing battery fluids, elements, etc. The result was, that after some experimental work, I constructed a water resistance box which was practically a water reostat, consisting simply of a small frame to which was attached two pointed electric-light carbons each being connected with an electric-light wire, and by a lever made to immerse in water. The greater the immersion the more current would flow between them, and when out of the water none at all. Thus I was able to get a nice gradation from a fraction of a volt to the full two hundred and ten voltage of the wires. This answered for all purposes. By having the "straight" current I was enabled to use it not only for galvanic cautery purposes, but by passing it through my Kidder coil, I got my Faradic current as well. I have used the street current ever since almost exclusively for my office work. This to my knowledge was the first use made in this State of electricity for medical and surgical purposes, generated by a dynamo. Although many forms of resistance have been tried, the water reostat is the one now in general use. And the utility of the street-light is now largely employed by those who do much work with this valuable agent under consideration. With many there may be an objection to the use of the street current on the side of danger. The principal thing to guard against is that you do not, while holding one electrode, attempt to light the gas or in any way to make a direct "ground connection".

In the use of the dynamo current, or of any other for that matter, the milliampere meter is very essential. This instrument has marked an era in the general application of electricity, and especially in gynecology. Formerly we were all at sea as to the amount given, impossible to tell just how well the battery was working, or if that was all right, perhaps the connections or cords were off. But even granting that you have an absolutely unvarying battery, etc., the various resistances of the different parts and physical conditions of the body are such, that with the same number of cells of given electro motive force, the electrodes placed in one position of the body would not allow a current of half the strength to pass that it would if placed otherwise. Hence we should have the patient in the circuit of the meter and we shall know just the strength that we are using irrespective of the kind or condition of the battery, number of cells, or feelings of the patient. It enables us to keep a record of our own work and get the benefit of others.

Thus will the milliampere meter render us the same aid in administering electricity that the "scale pans" and "graduate" do in other therapeutic agents.

Now in reference to the kind of electrodes for use. For the abdominal electrode we should aim to get something which is large and flexible and that will adapt itself to the body, and shall be a good conductor.

Apostoli was the first to introduce the so-called clay electrode, and in them we hardly have anything to be desired. They are very easily made, by taking a piece of copper three by four inches, place over it a piece of rubber cloth six by eight and screw a binding-post to the center, then place a layer of ordinary sculptor's or potter's clay over the underside about one half of an inch thick and cover with one or two layers of absorbent gauze and stitch to the rubber. When not in use keep it upon a piece of metal or glass and it will remain moist if covered. The clay side can be moistened and warmed before using, which makes the very best conductor we can have for an external abdominal electrode.

For internal work any metal will do for the negative pole, but for the positive, if metal is used, it must be plated with

platinum or gold. It is only necessary to use these for intra-uterine applications. For vaginal use the carbon or clay ball is preferable and does not affect the tissues unpleasantly. When purely local effect is desired, a bi-polar electrode is best, and is especially useful with the Faradic current.

Having indicated as briefly as possible the principles, action and mode of application, and thus knowing what electricity will accomplish in gynecology, it is not difficult to see in what cases its use would be the most productive of good, but, as with all other therapeutical and surgical agents, experience begets confidence and the latter implies success.

AMENORRHEA.—For the relief of amenorrhea there is no other single measure which can be so surely depended upon as electricity, and I may say that it is by no means always necessary to make intra-uterine applications, for, as in the case of virgins, it is always best to try external means first.

General Faradization, and spinal galvanization, in the latter using a current of thirty to fifty milliamperes, gradually increased, the negative pole placed at the lower lumbar region and the positive from the seventh cervical to the lower dorsal region.

After trying these means then resort to the intra-uterine uni-polar Faradic current of quantity. The galvanic can also be used with advantage, especially when there is lack of tone, the negative pole being in the uterus. But the Faradic especially favors development. Treatment should continue after menstruation has begun for a short time in order to fully establish the function.

DYSMENORRHEA.—Painful menstruation is one of the most common symptoms which we are called to relieve in women, but one which is due to perhaps a greater variety of causes than any other symptom connected with a disordered pelvis, but there are many cases in which no apparent cause can be found, and which are covered by that very convenient term "neuralgia". This is especially common in the unmarried, and in the absence of obvious causes may be due to lack of nutrition in the parts. Galvanism is the remedy, and sedation being sought for is found in the positive pole, which, applied internally, with the clay ball vaginal electrode, relief

will be obtained. When the flow is scanty the Faradic current should be used, and as I have before stated, the low tension from the short wire is preferred.

CHRONIC OVARITIS.—In chronic ovaritis we usually find the ovary dragged down, enlarged, sensitive and accompanied by irregular and painful menstruation.

In these cases the best results are obtained by vagino abdominal galvanization, placing the positive electrode in the vagina and as close up to the ovary as possible, and a current of from thirty to forty milliamperes used, applied every second or third day; seance at first five to ten minutes, gradually increased. During the intervals of treatment the ovary should be supported high up by a large glycerine wool tampon. After the extreme tenderness has subsided, bi-polar vaginal Faradization twice or three times a week will complete the cure. Of course the same general principles apply in these cases as in others, that co-existing difficulties should receive proper attention, such as a displacement or endometritis, which may influence a speedy cure.

SUB-INVOLUTION of the uterus is one of the most common conditions and causes of pelvic disorders with which we meet, and one which if it receive timely attention will *prevent* more trouble than any thing else. Bearing in mind the relaxed and congested state of the uterus and vagina following labor and abortion and that the enlarged uterus sags down and pulls upon the ligaments, giving rise to all the symptoms so common to us, it can readily be seen that electricity is the best means by which we can cause that uterus to contract and relieve itself of engorgement, and thereby assume a normal size and circulation. The "quantity" coarse wire Faradic current is the one to use at the outset, unless in the case of much discharge, and the presence of fungosities, for which latter the intra-uterine positive galvanic current of from forty to fifty milliamperes should first be used.

I find that it will be impossible in the very short length of time allotted me in this paper to touch upon many of the most interesting departments of gynecology and one especially in which so much has been said and written by the great French specialist, Apostoli. But I may say that except in a

few instances the high intensities, from ten to four hundred milliamperes which he has used, and with such reputed success, have not been used in this country.

In my experience and observation it is not safe in ordinary office work to make an intra-uterine application of a current strength exceeding fifty or sixty milliamperes, continued ten to twelve minutes, without risk of setting up pelvic inflammation. When you desire simple electrolytic action, as in the reduction of neoplasms, I have found it much better to use a mild current of twenty milliamperes for about the same number of minutes than to apply a current of fifty for ten minutes, for I believe that it is not the immediate destruction of tissue that reduces the tumor, but the process of change and absorption which the current inaugurates that does the business; hence I advocate mild currents oft repeated and longer duration. On the other hand where we desire the galvanic caustic effect, as with the positive pole for the destruction of fungosities, or in cases of desquamative dysmenorrhea, or when we desire to get the hemostatic effect of this same pole, we must use a current sufficient to accomplish what we desire at the time, say of forty or fifty milliamperes.

Upon the subjects of hystero neuroses, uterine displacements, flexions, stenoses, electro puncture, chronic oöphoritis, ectopic gestation, etc., etc., in the relief of which electricity has become such a recognized agent, I must at present be silent, and trust that the indications pointed out for its use may not be in vain, nor on the other hand that the great enthusiasm of some or prejudices of others, will exalt us in or deter us from the use of this agent in the relief of human suffering which has indeed characterized the present as the "electric age".

The paper was discussed by Dr. Gideon C. Segur as follows:

The final requisite is a proper outfit and that, I have demonstrated to my satisfaction, consists in a heavy battery, a cell selector, a milliampere meter, a current regulator and the proper electrodes.

I use a house-battery of forty-five Léclanché disque cells,

the selectors, Faradic coil, etc., conveniently arranged in a wall cabinet made by the Galvano Faradic Manufacturing Company of New York. After repeated trials with different current regulators I am now using with much satisfaction the *new* Bailey Current Regulator. This I use with all currents connected with the negative pole.

I have not yet succeeded in obtaining a milliamperemeter which will work to my satisfaction. A perfect one is still to be attained, but the demands in that direction will undoubtedly stimulate experiment until it is produced.

In my experience exact voltage is a matter of scientific interest rather than of practical therapeutical usefulness, though an exact measure is of great comparative value and a guide in application.

As with every other therapeutic agent the dose must be regulated according to the effect desired and modified by the idiosyncrasy of the patient.

In uterine fibroids an abdominal clay electrode six by eight seems to answer all requirements; rather thicker and heavier than that referred to by Dr. Root, as the larger and more complete the apposition of the positive electrode the less will be the resulting irritation. In large tumors it may be placed over different portions of the tumors at different times of treatment, and thus the entire tumor be brought into the circuit. The interuterine electrode should be passed well to the fundus and if necessary dilatation of the cervix should be performed not only to facilitate the introduction of the electrode, but also to allow of free drainage.

For interuterine negative galvanization the material is not of so much importance, but when this is used as the positive electrode a substance that will not corrode must be used. I have been pleased with the specially prepared steel electrodes made by Waite and Bartlett.

A flexibly insulated handle is of convenience for introduction.

In these cases of uterine fibroids I have rarely failed to check hemorrhage by interuterine positive galvanization with a strength of ten milliamperes continued from five to ten minutes. Where there is a slight hemorrhage I usually apply

the positive pole for five minutes and then proceed to change the poles without removal of electrodes and make an inter-uterine negative application. Guided by the pain produced I gradually increase the strength of the current, not carrying it beyond the limits of easy endurance, seldom exceeding sixty milliamperes, but continuing the application usually for twenty minutes, and then gradually diminishing the strength until the current is entirely shut off. With a good current regulator this can be accomplished with no irregularity in the current.

The use of galvanism in uterine fibroids has given great satisfaction to me and my patients in relieving the symptoms and removing to a greater or less degree the tumor.

SOME OF THE RESPONSIBILITIES AND CORRESPONDING DUTIES OF THE MODERN ACCOUCHEUR.

BY E. F. PARSONS, M.D., THOMPSONVILLE.

For thousands of years after the edict was proclaimed, "In sorrow shalt thou bring forth children", woman in travail depended for assistance upon her fellow woman.

The attendants chosen were those whose personal experience or special opportunities for observation had so familiarized them with the embarrassments of the occasion, that their mere presence was calculated to inspire the sufferer with patience and courage. Aside from the words of tenderness and cheer which sympathy with one's fellows in trouble might dictate, the substantial assistance rendered must have been in very primitive times of the very simplest kind.

Perhaps the most important act of service at first attempted was the separation of the afterbirth from the child, an operation suggested by the habits of animals, and taught them by instinct.

Absolute ignorance of the principles involved in parturition, whether mechanical or physiological, fixed the bounds of intelligent ministration, or rather limited assistance to the exercise of the simplest moral influences and certain crude almost menial acts of service.

Their function was emphatically to watch and to wait, until nature unaided should accomplish her masterwork.

Attendance upon women in labor was relegated exclusively to women because:

First—Labor was considered by both sexes to be like menstruation, conception, gestation and lactation,—one of those functions interesting woman exclusively, a matter with which

man could not interfere without overstepping the bounds of sexual propriety.

Second—Because the natural jealousy of man forbade all meddling with the sexual organs of woman, by any male who was not entitled thereto by the possession of marital prerogatives.

Third—Because labor like the other functions referred to, was considered to be a natural process, to be accomplished successfully without any assistance from art.

Midwifery as then practiced, had not become dignified by any association with learning, and as animals could attend to the delivery of their young without help, so women were considered to be thoroughly competent for like physical demands, especially when surrounded by friends whose intelligence, sympathies and instincts were of a much higher order.

We are informed by travellers that labor among primitive people living at the present day is considered to be a very simple affair, easily accomplished, with very little fatigue, and very rarely followed by serious results, and we have a right to infer, that the same habits and manner of life of primitive people living in ancient times secured the same immunity from the serious complications incident to child-bearing among the civilized and enlightened of the present day.

The procreative process was intended to be originally, and is now among primitive people, purely physiological. As we now find it in modern life, it is more properly designated, pathological.

Ethnology teaches that the fetal heads and female pelves belonging to those of the same race, are so well adapted in size and shape to each other, that labor following marriage of those of the same race is comparatively easy. We therefore may infer that one of the causes of the increasing difficulty of child-bearing as the world has progressed, and races have intermingled, is the intermarriage of races.

It is a fact well settled in the history of obstetrics, that secluded representatives of a pure primitive race, now rarely found, but illustrated by the American Indians, African Negroes and the islanders of Polynesia, have learned, by an occasional opportunity for observation, to expect a difficult

parturition or even death, when a daughter straying away among neighbors of a foreign race, becomes pregnant by intermarriage with them.

Indeed it is now acknowledged that so-called civilization has by conquest so mixed up the races that a typical natural labor, such as exists among primitive people, does not take place among civilized communities. Another cause of the increasing difficulties of parturition among the civilized and enlightened is attributed to the increased size of the fetal head at term, due to the influence of an increasing intellectual development of the species.

A third cause of the serious character of child-bearing manifest in modern civilization, is the great change in the manner of life, including the habits and customs incident to the demands of modern society. These changes in custom have prevented that proper degree of physical development needed, in order that the severe demands of the procreative process might be met successfully, by depriving women of a sufficient amount of vigorous exercise in the open air, by giving them occupations which have prevented that amount of leisure and freedom from responsibility which would allow proper attention to the malaise incident to menstruation, and by instituting customs and entertainments calculated to stimulate disproportionately the nervous system.

By the first error, the general physique becomes degenerate, the muscular system more or less inefficient, and the tissues lose tonicity or power of resistance to strain. By the second, the generative organs are treated with cruel indifference, ultimately resented by incapacity, because not allowed proper protection and development. By the third, nerve power is weakened and the nervous system placed in an abnormal state of irritability, entirely inadequate for the self-control, endurance and serviceable governing of the other physical functions, which are needed, in order that nature's highest physical ordeal may be passed through with impunity.

These changes in procreative efficiency have not come suddenly upon women in modern life. They have been increasingly noticeable for centuries. They have not, however, been regularly progressive, but whenever the causes were allowed

to operate the results were noticed to follow, and were indicated by a search for more competent assistance than the kindly service of friends, with only ordinary intelligence, to meet the increasing difficulties of the situation. Aid was first sought from the priesthood. The religious character of woman and the mystery enshrouding child-bearing, naturally suggested this resource in her extremity. The thoughtful Athenians, noticing the poor results of the service of the midwives, reasonably established a school for their instruction, the first institution of the kind recorded. The instruction, however, was exceedingly meager.

In the time of Hippocrates physicians were called upon in extreme cases, but their service was mostly limited to the operation of embryotomy. Indeed, their knowledge of midwifery was largely theoretical, necessarily limited on account of their exclusion from the lying-in room by custom and prejudice. About the commencement of the Christian era some brilliant foreshadowings of help yet to be provided in the far future, for poor woman, occurred, but for centuries the growing needs of child-bearing females were consigned to ignorant midwives. Occasionally help in extreme cases could be obtained from some brave physician who, daring the contempt of public opinion, and the scornful epithets of the crowds, would for the sake of helping a poor sufferer in her direst need, bring to bear all that he could command from the scanty literature of the day.

In the meantime, the causes producing the dangerous conditions incident to child-birth were in operation, and years of suffering and years of inefficient efforts to give relief, passed away. Many a child, and many an expectant mother, were sacrificed to ignorance, the superstition and the prejudice of the age. Relief was sorely needed, but whence could it come?

Again an effort was made to educate the midwives, an event indicating the acknowledged want, and the awakening to some energetic effort for improvement. Finally, with the revival of thought after the dark ages, the science of anatomy began to dawn, and to give its substantial aid to the healing art. Could not its study give some help to the suffering parturient? The perils of child-bed earnestly called for assistance from

any source competent to provide it. The rediscovery of podalic version was the first answer which modern surgery gave to the cry for help, and betokened more relief yet to come. Our first position is this.

To woman was given the physiological functions of conception, gestation and parturition. These she was originally able to accomplish successfully without harm to herself or her offspring. By the complications involved in modern civilization these functions are constantly beset with dangers, so that she who undertakes them without intelligent assistance at hand, takes great risks of harm and even of life. Medical science has been applied to for help, and has responded favorably, even adopting midwifery as a legitimate field for operation. The modern accoucheur, the disciple of science, her representative and almoner, assumes charge, takes the responsibility, and becomes not only individually the protector of his patient, but representatively a conservator of the race.

This responsibility is not that of one simply sitting by the couch of a friend carrying on a natural function, to terminate in a stereotype manner; but of one who takes intelligent and watchful charge of a dangerous proceeding, recognizing at every step any abnormality, and administering from the armamentarium of scientific facts and principles, promptly and efficiently, until the mother is safe beyond the dangers of wreckage, and the new being well launched into his new existence. This is the high function of the modern accoucher, a position pre-eminently useful, and one to be proud of, when well filled, but fraught with much harm if carelessly unappreciated.

The fulfillment of woman's high mission is entrusted to his keeping. The paucity of births in enlightened society, and the multiple wrecks of young mothers, increase the weightiness of the load assumed.

It can only be courageously borne, when the duties of the position are first known, and then conscientiously discharged. The qualifications needed by one who proposes to practice obstetrics are manifold. No other department of medical practice requires such varied accomplishments. The keen discernment and tender gentlemanly address of the physician,

the daring, self-reliance and consummate coolness of the surgeon, the skill and deftness of the mechanician, the eruditeness of the scientist, and the finesse of the diplomatist, will all be needed by one who undertakes to supervise such an elaborate scheme as the procreative process, and direct such a complicated bit of physiological mechanism as a pregnant woman, through her perilous journey safely. The position cannot be conscientiously assumed without abundant preparation.

Development and discipline of mind, obtained by years of continuous study, maturity of judgment, familiarity with all branches of medical science and clinical technique, best obtained by hospital training, will altogether prove none too fertile a source of furnishing to fit a young practitioner for the embarrassments of actual practice, and enable him to successfully meet the emergencies which will unforeseen await his management. This being so, the practice becoming now far too prevalent, of cramming matriculants from stores and shops through a short course of study by ambitious professors of second-and third-rate medical colleges, seems strikingly reckless. Better preparation of the accoucheur then, is the first duty.

The second is the creation of a better public sentiment, concerning the preparation of those who are to become mothers, for their natural and legitimate mission. In searching for an explanation of the disastrous effect of child-bearing upon the average woman of the present day in enlightened communities, the observing physician cannot long fail to see that in the education and treatment of our daughters public opinion is greatly at fault. The fact that girls from puberty are subjected to entirely different and much more complex physiological experiences than those of boys, suggests that from this period of their history they should not be made to conform to the same educational routine nor be placed in competition with them.

From this period their spheres of life are entirely different, and any method of education or occupation which ignores the fact that a woman every fourth week must be given opportunity for rest and relief from the responsibilities incident to

the other three weeks, will surely be productive of physical impairment.

To excuse girls and women from vigorous and even laborious exercise in the open air, is to deprive them of one of the most efficient means for furnishing their muscular and nervous systems for the strains of gestation and parturition.

In Goodell's "Dangers and Duties of the Hour", a little pamphlet which every physician should read, the evil results of our faulty system of female education, in order to attain "higher culture", are vividly portrayed.

Physicians admitted to the counsels of the families and commanding the respect of communities, should exert themselves to educate public sentiment in this matter. It is a duty belonging to the department of prophylactic medicine.

The risks of pregnancy, the early, frequent and often insidious pathological conditions incident thereto, the ultimate dependence of the parturient upon obstetric art for successful delivery, render it exceedingly prudent that the accoucheur should be notified early of the condition of his new charge. Neglect in this particular, so prevalent, especially in the country, until just before the expected accouchment, should be severely criticized; and it is the duty of the accoucheur to use all proper effort to correct this error.

One morning, some years since, the author was summoned by one of his lady patients, who startled him on his arrival by the announcement that she had conceived a few hours previous, and wished me to secure a nurse for her confinement nine months hence. The frank confidence she placed in my keeping was no more conspicuous than her fidelity to her own interests and those of her family, in thus early securing the supervision of one into whose professional care she would place the management of her case; which, I will state, terminated successfully at the time she anticipated.

The very prevalent custom of interfering with natural sexual relations, by preventing conception or interrupting gestation, in the arts of which it is feared that girls, even in boarding-schools, are much better trained than in the duties of motherhood, indicates a serious lapse in regard for the ethics of marriage and loyalty to a perfect physical idea.

The accoucheur, whose best results are obtained where the procreative organs and their functions are preserved in their integrity, should vigorously protest against this.

The diseases incident to pregnancy are multiple. They consist of pathological phenomena growing out of the condition or as some have called them, exaggerations of the physiological phenomena and of phases of ordinary affections, rendered grave by the fact of pregnancy.

They are so numerous that Cazeaux has classified them into "disturbances of digestion, circulation, respiration, secretion, excretion, locomotion, and of the sensory and intellectual functions".

Pathology of pregnancy is a term frequently found in works on obstetrics.

We feel little hesitancy, therefore, in calling gestation, as found at the present day among us, pathological. We consider it safer to consider the purely physiological instance an exception, in order that the pathological instances constituting the rule shall be appreciated by, and enlist the proper attention of, the accoucheur.

One of the earliest as well as most serious affections which confront us is pernicious vomiting. This is considered to be wholly or in part a result of reflex irritation, a neurosis, an indication of neurasthenia. As such we may readily consider it, strongly indicating that pregnancy has become pathological. We must at least allow that pernicious vomiting is an exaggerated physiological phenomenon. We are confirmed in this opinion by the absence of this symptom in animals, and by its infrequency, to say the least, among women whose habits of life approximate those of women living primitively.

But whatever be its indirect cause, its management will often test the skill of the accoucheur to the utmost, and while assiduously addressing himself to the relief of the persistent symptom, to determine the direct cause will often baffle the insight of the most astute diagnostician. The possible direct causes of the trouble are so numerous that the accoucheur, to be equal to the situation, must be an expert in hygiene, the principles of alimentation and dietetics in differentiating disorders of the digestive organs; he must be a thorough gynecologist.

cologist, in order to be able to discover its cause amid possible abnormalities in condition or size of the generative organs, and finally, he must be ready, when all else fails, to assume the role of the obstetric surgeon and empty the womb, to save his patient from a condition which every American accoucheur of experience believes to be likely to precede death.

One of the first complications of gestation to which the accoucheur's attention is called is miscarriage, and whether this results from a so-called accident, or design, we may consider it largely due to a want of proper appreciation of the sacredness of the procreative function belonging to woman, that it occurs so frequently.

Therefore to the modern accoucheur, who has assumed in the name of science to conserve the functions of woman for her legitimate mission, belongs the duty of re-establishing the honor and glory of child-bearing in the respect of society at large, as well as of applying all that science has provided, in order to preserve this highest physical function of woman unimpaired.

The seriousness of this subject in a political aspect is not so apparent in our country, where the native-born woman's lack is made up by the fertility of our imported population; but in France, where manifestly progressive depopulation is experienced, the government, alarmed, has offered prizes for the breeding of large families, and asylums for the protection of those mothers from shame, who are tempted to prematurely destroy the products of illicit intercourse.

There is of course no question about the abnormality of miscarriage. It cannot belong to any physiological process. And all the resources of science and art for its prevention, or arrest where possible, should be promptly applied by the accoucheur.

To this end he should by all proper means, obtain early charge of his gravid patient, and having familiarized himself by special study with all possible direct and indirect causes of miscarriage, he will, after special study of his patient, advise such hygiene, habits, manner of life, self-denials, exercise and therapeutic measures as the case may need. He will also warn against exposure to especially disastrous morbid influ-

ences and emotional exercises. He should ascertain also by thorough, careful examination of the womb and other generative organs, whether any abnormalities of condition or position incompatible with successful gestation exist, and correct them.

If miscarriage threatens he must arrest it as promptly as possible, by those means which modern therapeutics have shown to be the best. If miscarriage is inevitable he should use those measures which will safely and speedily empty the womb thoroughly, allowing as little loss of blood as possible and remembering in all his operations the importance of leaving his patient aseptic. To accomplish all this in the best and safest manner he will need to acquire the skill and expertness of the gynecologist.

Puerperal eclampsia is one of the most dreaded, most horrid to behold, and most fatal, to both mother and child, of all the diseases of pregnancy. Good authority states that one in twenty or thirty women suffer from albuminuria during gestation, and a much larger proportion during parturition. This fact is weighty in determining the pathological character of pregnancy, and indicates the urgent need of child-bearing woman for help from science, and the accoucheur cannot but be impressed thereby with the responsibility and almost sacredness of his functions, when he assumes to respond. But to do this, now-a-days, he must be acquainted with analytical chemistry and microscopy, and an adept in diagnosis and therapeutics. Ignorance will prove fatal. The expectant treatment of the old-time midwife will fail. This insidious disease gives significant warnings, and when they are recognized it can be easily averted. The urine of every pregnant woman should be examined early and often after the date of quickening, not simply for albumen, but for all the information concerning the condition of the kidneys obtainable from that source. If convulsions persistently *recur* during *gestation*, in spite of treatment, artificial delivery should be boldly undertaken. At the bedside of the *parturient*, the accoucheur should ever be awake to the possibility of convulsions and have at hand means for prompt delivery of his patient should they occur. Time in such an emergency is precious and speedy efforts to relieve the system of surplus urea, by active

catharsis or diaphoresis, to control cerebral congestion by venesection or veratrum viride, and to calm the hyper-irritability of the nervous system by means of the bromides, chloral and morphine should be instituted. Death from puerperal eclampsia occurring during gestation or parturition, without previous efforts to deliver, should now-a-days be considered criminal. But we must pass on.

Modern writers on obstetrics enumerate more than two dozen different pathological conditions incident to gestation and parturition. Surely the original normal process can be only dimly seen through such a degenerate cloud as this. Medical science must come to the rescue. It is not safe for a woman now to undertake the precarious function of child-bearing without the assistance of an intelligent obstetrician. The obstetrician of to-day must thoroughly prepare himself to assist the mothers of the race to run the grim gauntlet of disease which their maternal instincts prompt them to dare.

As the anticipated date of confinement approaches, in order to secure the best predisposing conditions for a successful accouchment, the accoucheur should supervise the selection and preparation of the lying-in chamber and see that they conform to the most approved hygienic requirements, as regards cleanliness, light, sewerage, ventilation and heating.

The multiplicity of details recommended by Dr. Thomas a few years ago would be found impracticable by a country doctor, but it should at the same time be borne in mind that the lying-in patient furnishes a fertile field for septic disease, and the benefit of prophylaxis in this respect cannot safely be ignored.

If any one should think that the effort hitherto made, to show the procreative process as seen among us at the present day to be pathological, to be strained, it seems to me that a practitioner who has had an average experience with the perils of child-bed, will consider the term no misnomer. At any rate, for practical purposes, we believe it to be the wisest, inasmuch as its sound will be more likely to put us on the alert. And in this we are not alone, for Busey writes, "it is far safer to regard the parturient as a sick woman exposed to danger", and Parvin takes nearly the same position, when he

writes, "even admitting that the savage woman can safely bring forth alone, the civilized woman is in many instances far from being in a physiological condition". The attitude therefore of the accoucheur at the bedside of his charge should not be that of an attendant, whose presence whether awake or asleep, is simply for the assurance of his patient, he should *simply wait* when he is satisfied that no help can be given to enable her to accomplish her task with less danger and fatigue. The question for him to answer is not can nature accomplish alone? but can nature, struggling against odds, be helped?

Placenta previa may occasionally flaunt itself in the face of the accoucheur, even at his first visit, and well nigh take his breath away. There must be no expectant treatment here. The hemorrhage must be stopped with promptness, decision and dexterity. The placenta must be separated from the dilating lower segment of the womb, or an efficient tampon be placed for temporary arrest of the bleeding. When these have fulfilled their mission the womb must be emptied by version or the forceps. Discretion obtained by previous study of principles and method, and celerity, will probably save the mother and possibly the child.

During the first stage of labor the presentation and position of the child should be ascertained as definitely as possible, and any unfavorable condition arrested so far as practicable, by abdominal palpation and bi-manual manipulation. The strength of the patient should be husbanded by quieting too agonizing pains and limiting the protracted exhausting delay caused by feeble and inefficient pains, by any and all proper means. A rigid cervix must be treated by general and local remedies and its dilatation assisted by any mechanical means which will apply uniform pressure all around the edge of the outlet. Barnes' bags are the best in use, but something better might be devised which will act from below, as the bag of water and longitudinal muscular fibres act from above.

The efficiency of the membranes in dilating the cervix should be appreciated, and they should be kept intact until their mission in this respect is past, when their rupture will expedite labor amazingly. Speed and safety should be the

watchword, and safety is best served by a certain amount of speed. Both the cervix and perineum were no doubt at first possessed of all the dilatability ordinarily required and their frequent laceration now-a-days is evidence to me of deterioration of structure or vicious adaptation of passenger to passage.

The obstetrician who has assumed the responsibility of tendering to the parturient all the aid which science has provided for her, will not properly magnify his office, unless he familiarizes himself with the mechanism of labor, the various diameters of the fetal head at term, the various diameters of the average female pelvis and their respective relations to each other. He must also obtain in each case before him in his mind's eye, a clear picture of the manner in which the child is being adjusted to the pelvis of the mother in its preparation for exit. He must be dextrous in all sorts of obstetric operations.

By these means he will be in constant readiness to correct any faulty conditions yet remaining, and if any arrest of progress should occur he will be able to reveal its cause and deftly apply those mechanical means, or ingenious postural devices which experience has proved serviceable in the lying-in chamber. His familiarity with the use of the instrument needed is pre-supposed, for science has no patience with bungling nor awkwardness. Both gentleness and dexterity become the obstetrician. Delays here are dangerous, to the child as well as to the mother. Meddlesome midwifery, prompted by impatient stupidity, is bad indeed, but intelligent interference has many a time brought a labor which has been tedious and threatening for hours, to a speedy, successful termination. But when a living child cannot be born per vias naturales, the accoucheur should be prepared for laparotomy and Cesarean section. The emergency demanding it may arise suddenly and these formerly serious operations, with aseptic and antiseptic methods are now considered to be such simple and innocent affairs that embryotomy upon the living child is being considered unjustifiable.

Much has been written these years past about the perineum, and its laceration has furnished a bonanza for the gynecolo-

gists. In spite of all the methods suggested for its protection, it gives way in the hands of the best accoucheur, and many unattended primiperæ escape intact. We are inclined to the opinion that the accoucheur is not altogether responsible for this mutilation. The perineum, like the cervix, was made to dilate, and they do dilate in the animals, and in females among savages, in ordinary cases. We think the frequency of this accident among the civilized furnishes a striking evidence of the growing inadaptation of the woman of modern life for child-bearing. It is no doubt in the power of the accoucheur to lessen the amount of damage threatened and in my opinion the dilatation is best accomplished by the spherical fetal head, for no other means suggested produce such uniform pressure. The supreme moment of danger is when the nose, chin or bony processes of the shoulder, in passing over the stretched edge, present a line of projection over which the perineum more easily tears.

The indications for protecting this from injury are strong pressure of the head against the arch of the pubes, delay of the on-coming head until complete dilatation occurs, and ruffling the edge of the perineum at the raphe by grasping the bulging mass with the open hand, and pressing all the tissues within reach of the thumb on one side, and the fingers on the other, toward the central line. The responsibility of the accoucheur during the third stage of labor continues weighty. His duties often require ability of the first order and neglect or ignorance may be followed by serious consequences. Complete delivery of the placenta and firm contraction of the womb, are the two results to be sought. By the first a prolific cause of septic disease is removed and by the second post-partum hemorrhage is usually prevented. The author knows of three deaths which have occurred within the past few years by a neglect of these duties. The faithful accoucheur will not leave his patient until he has reason to believe that both the results sought are facts.

The diminished mortality from septic disease since aseptic and antiseptic measures were adopted places an increased responsibility upon the accoucheur of the present day, and whether he believes in their efficacy or not, the dictation of science

requires of every faithful disciple the most approved prophylaxis as well as therapy.

The responsibility of the modern accoucheur does not cease until the womb has returned to its normal size and all the impairments incident to gestation and parturition are removed. Then he can resign the care of his precious charge, fortunate indeed if he can pass her over to her family, possessing the same physical integrity she had when first placed under his supervision.

If however, as is very likely to be the case, nature has not proved entirely equal to the strain, and faculties severely tried refuse their former resiliency, the conscience of our accoucheur will still be light, when he can assure himself that these untoward results are not due to any neglect or unfaithfulness of his, in applying all the aid which science has proffered.

Dr. Parsons' paper was discussed by Dr. S. R. Burnap as follows:

Mr. Chairman:

I feel some embarrassment in attempting to discuss the very interesting paper by Dr. Parsons, to which we have just listened, on account of the extent of ground which it covers and the variety of topics it touches upon as related to the duties and responsibilities of the modern accoucheur. There are two or three subjects, however, of interest from a practical standpoint, to which I will briefly invite your attention. And first let us consider for a moment the subject of asepsis, in connection with the practice of obstetrics. The importance of this subject was impressed upon my mind by an incident that occurred during the first year of my practice.

One evening there came to my office a neighboring physician with the statement that he had recently lost three successive cases of midwifery, each patient being seized soon after her confinement with a malignant form of child-bed fever, from which, in a few days, she died. "And," said he, "I feel afraid to attend any more cases and begin to question whether the disease may not be contagious and whether I may not be conveying it from one patient to another." This was in pre-antiseptic days, but there was good authority, then, to show

that his suspicions might be well founded, although medical opinion was then divided. The result of the interview was that he decided to attend no more cases of midwifery for six weeks, but to send his cases to me, which he did. I attended five or six during the term, but had no cases of fever, nor did he have any further trouble after returning to that branch of his practice. *

And only very lately a severe case of septic fever, with recovery, occurred, of which I have full knowledge, in the person of the wife of a physician who was attended by her husband in her confinement, soon after his attendance upon a fatal case of erysipelas.

I relate these cases only to emphasize the importance of thorough disinfection on the part of the physician and nurse as well, especially if either has been in recent attendance upon any form of septic disease. He, who at the present day, with full knowledge of the principles and requirements of asepsis, fails to guard his parturient patient by every means at his command against the dangers of septicemia, fails not only in his duty to her but sins against great light. I am a firm believer in the "ounce of prevention"—prophylaxis. I have great faith in the "gospel of cleanliness"—asepsis. In the "pound of cure"—antisepsis, there is perhaps, some virtue, but it is better to avoid the necessity of taking it, especially in the form of strong douches of the bichloride. Disease germs, having once effected a lodgment in the system, manifest wonderful "staying qualities." It is hard to expel or dislodge them. Therefore, it is best to see to it that they find no admittance.

In regard to the management of cases of puerperal convulsions, in which the question of delivery is concerned, I wish to say that while I think occasionally it may be necessary or advisable to induce premature labor or to hasten delivery at term, it will generally be better not to interfere in any manner either with labor or gestation, but to attend thoroughly to the convulsions and the disease causing them, leaving the matter of delivery entirely with nature to be accomplished in her own good time and way. This view seems to me to be justified by the results of my experience. In one severe case dur-

ing labor at term both mother and child were saved. In two cases during gestation, one during the seventh, the other during the eighth month, both mothers were saved and both children were lost, the first necessarily. Could the uncertain hope of saving the second have justified the added risk to the mother of a forced delivery? I thought not and did not interfere.

In obstetrical practice generally I have a leaning toward what might be called conservatism. I have not so frequently interfered to hasten delivery as some. I have great confidence in nature and patience with the slowness of her processes. It is said to be true, and it about accords with my experience, that nature requires the assistance of art only in about one case in thirty in order to effect a happy delivery. In an obstetrical practice extending over a period of about thirty years, and including between twelve and fifteen hundred cases, I have not used the forceps over fifteen times. I have used the crotchet but once. I have had but one case of lacerated perineum requiring to be sutured. Had I used the forceps oftener doubtless I should have had more. Minor lacerations there may have been, but they were unknown to me or my patients and were not of consequence. I think instruments might have been somewhat oftener used, with advantage, than I have used them, especially in the interest of the child. I will only add that I regard the duties and responsibilities of the modern accoucheur as of the very highest, for so much must depend in the difficult and trying cases upon the judgment and skill of his management.

DIPHTHERIA—ITS HISTORY, ETIOLOGY, CHEMICAL PATHOLOGY AND TREATMENT.

BY M. M. JOHNSON, M.D., HARTFORD.

Mr. President:

I must first express my sense of the honor conferred upon me, when invited to present the subject of diphtheria to this body of able practitioners of Connecticut, on this their Centennial Day.

In presenting the subject of diphtheria we have to chronicle the importation from the Old World of one of the most unwelcome guests which ever visited our New England coast. When our forefathers packed up their earthly effects to embark for the New World, they unwittingly laid in their future supply of diphtheria, which has continued the work of devastation already so prevalent in the land they left.

This dreaded disease is known by a multitude of names, which we will not enumerate here, as they are given in nearly all the treatises upon the subject.

In 1821 Brettoneau recognized that a number of differently named diseases, associated with membranous inflammation of the upper air passages, constituted but one "specific phlegmasia"; to this he applied the name of diphtheria (diphthera). No doubt this disease had existed in New England long before we find any written record of its presence. The earliest record we have of its existence was in the family of Samuel Danforth, graduate of Harvard University in 1643, who had twelve children and lived in Roxbury, Massachusetts. The first died at the age of six months, the next three being attacked by the malady of "bladders of the wind pipe" in December, 1659. "It pleased God to take them all away at once, even in a fortnight's time."*

*Treatise on Diphtheria, by A. Jacobi, 1880.

John Josselyn, Gentleman, in "An Account of Two Voyages to the New England, during the years 1638 and 1663", writes as follows:*

"The English in New England are troubled with a disease of the throat and mouth which has proved mortal in a very short time."

Diphtheria next appeared in Kingston, New Hampshire, in 1735. It was thus described by William Douglas:†

"It was first noticed in Kingston on March 20th, 1735. The first victim was a child, who died in three days. It continued to spread, seizing here and there particular families, with that degree of virulence, that of the first forty cases none recovered. After a few weeks it spread to the neighboring towns, but in a milder form.

"Its first recognized appearance in Boston was in August, 1735, in a child who had white specks in the throat and a cutaneous efflorescence. In September it appeared in several sections of Boston, with more decided complaint of soreness of the throat. It increased in Boston during the winter, reaching its height in the second week of March, 1736, there being twenty-four funerals during the week.

According to Dr. Cadwalder Colden in a letter written in 1753 to Dr. Frothingill, printed in Volume I, London Medical Observations and Inquiries (pages 211–225), the throat distemper proceeded gradually westward from Kingston, so that it did not reach the Hudson River until two years afterwards, but it continued some time on the east side of the river before it passed to the west. It appeared first in those places to which New England people resorted for trade, and in places through which they traveled.

"The disease was mostly confined to children and young people." It was no doubt carried by walking cases of diphtheria and infected clothing.

‡Mr. John Dudley lived in the center of the town of Madison, in a valley containing marshes, now dry from excessive drouth. In this family of five persons the childless mother

*Treatise on Diphtheria, by A. Jacobi, p. 3.

†The Patriarchial History of a New Epidemic, Eruptive Emillinary Fever.

‡Report of R. W. Mathewson, M.D., on Diphtheria as it appeared in Madison, Connecticut, in August, 1865. Connecticut State Medical Society's Report, 1865.

was left to tell the tale. From this focus the disease was carried by watchers and others who visited the infected house. These had the disease at their own homes and gave it to others. Henry Watters took the disease at the Dudleys' and had it at his father's house; six others took the disease from him and two died. Mrs. Polly Dudley watched at the Dudleys'; she had the disease at her own home on Sumner Hill, seven miles distant; her daughter took it from her and died. Mrs. Hopson also watched; took the disease at her own house, one mile distant; six of her children had it, one of whom died. Mrs. Maynard assisted in laying out one of the Dudley children; had the disease at her own house on Tower Hill. William Stevens and wife were at the Dudleys'; both took the disease, also one child; father and child died, making twenty-five well marked cases which could be traced to one source. There were as many more slight cases of which no account has been taken, nearly all of which proceeded from well marked cases. In cases where there was a single exposure, the period of inoculation was five days.

TREATMENT.

In many of the fatal cases it was strongly cathartic. In Dr. Mathewson's cases it was tonic and supporting; quinine, whiskey, wine, ferri muriate, two drops for each year for the age of the person.

Dr. Mathewson had twenty cases; five deaths; others, fifty per cent. died.

The first record we have of diphtheria in Hartford was in the only daughter of Dr. Gurdon W. Russell, who died of the disease after a week's sickness, in December, 1855. For a few years following diphtheria was quite prevalent.

Dr. Russell related a reminiscence which occurred in the practice of Dr. David Crary, which was so creditable to the Doctor that it is worthy of record. He says: While Dr. Crary was in attendance upon a case of membranous croup, the child was suffering from extreme dyspnea, and in the emergency Dr. Crary took his lancet from his pocket and thrust it directly into the trachea, holding the wound open so that the child could breathe. He then called for assistance,

The child made a good recovery. This was probably the first case of tracheotomy in Hartford.

SYMPTOMS.

Mr. Caldon in 1735, gave the following symptoms of diphtheria: "It is attended with a moist putrid breath, pulse usually slow, but frequent and irregular: countenance dejected and tongue much furred. Sometimes the membrane extends all over the tonsils. At other times the tonsils are swollen, with white specks from a quarter to a half inch in diameter, which are thrown off from time to time in cream-colored sloughs. Sometimes the parts near the gullet are much swollen, both inwardly and outwardly, so as to endanger suffocation and frequently mortify. Sometimes these swellings impostsomate."

The last complaint is commonly of an oppressiveness, or stricture in the upper part of the chest, with a difficulty in breathing and a deep, hollow, hoarse cough, ending a strangled-like countenance, which is soon pallid by death. The disease is not always attended by loss of strength. Many have walked about the room until within an hour of their death. Patients usually died from the fifth to the fourteenth day.

When the disease first appeared it was treated with the usual evacuations in common angina, and few escaped. In many families who had a great many children, all died.

CAUSE OF DEATH.

Blood-poisoning was usually considered the cause of death. Professor Woodward, of Vermont, considered the cause of death asphyxia.

MORTALITY.

Dr. Willard of Albany, lost one in ten and a half; Dr. L. M. Beardsley of New Milford, Connecticut, fourteen out of fifteen proved fatal; Dr. Kneeland of New York, one in eight; Dr. Jacobi of New York, one in seventeen; Dr. Woodward of Vermont, never lost a case,

TREATMENT.

Dr. Woodward of Brandon, Vermont, in a valuable paper on the subject, says that he invariably treats diphtheria as follows :

“I use mercury in small doses with opium to keep it from running off by the bowels, in some cases repeating the dose every hour that I may keep ahead of the disease. I continue it until the disease is checked, or there are indications of pytalism. In either case, I suspend the mercury and substitute chlorate of potash.” Dr. Woodward is also of the opinion that when the mercurial plan is adopted, we are not as likely to have paralysis as a sequel.

This is a formal outline of the beginning and spread of the disease in New England, with the earlier statements as to symptoms, cause of death, mortality and treatment.

ETIOLOGY OF DIPHTHERIA.

The century which has just passed has been fertile in scientific researches. The etiology of diphtheria has engaged the attention of many of the ablest workers of our profession. Atmospheric conditions, peculiarities of soil, miasmatic conditions and filth, have each in their turn been investigated to account for the origin of this most fatal disease.

The symptoms accompanying this disease, as conditions of the throat, with all its clinical peculiarities; the onset with fever; the sequelae of paralyses, have long been known and accounted for by a poison absorbed in some way into the system.

In 1841 Henle expressed his belief in a contagium animatum. Schwann demonstrated the presence of lower organisms in fermentation and putrefaction. The teachings of Pasteur, “concerning the conditions under which putrefaction occurs, all tend to explain the various contagious and infectious diseases by analogy, and stimulated the search for a vegetable organism in diphtheria”. Hüter found these in the diphtheritic membrane of the pharynx and larynx and inoculated them into the mucous membrane of animals, and described them as dark, round, active little bodies. Ortel found them in diphtheritic membrane and lymphatic glands and kidneys and other organs. He considered them as constituting the contagious ele-

ment. Thus we see that the trend of scientific investigation was in the line of a micro organism as the specific cause.

It was reserved for the last decade to fully demonstrate the etiology of diphtheria, which places little, if any, doubt upon the subject. Paralysis is the constant and dangerous symptom following diphtheria. The problem before the investigator was to fully account for this condition.

Klebs first discovered the diphtheria bacillus; Löffler first isolated it in pure culture; Roux and Yersin were the first to show that, when introduced into the circulation of a rabbit, this bacillus produced paralysis.

Löffler in his article published in 1884, in his histological examination of a large number of cases of diphtheria, concluded that a specific species of bacillus, found by him in diphtheritic membranes, and whose morphology and biology he carefully studied, was identical with the one described in the previous year by Klebs, and is the only one present which is of any pathogenic importance. These investigations were verified by Babes, D'Espine, V. Hoffman, Artmann, Roux and Yersin, and others.

The question was considered as practically settled that the Klebs-Löffler bacillus was the cause of diphtheria, and was present in all the primary cases of this disease in the diphtheritic deposits. When inoculated into susceptible animals, it produced the disease in all its features, even to the characteristic paralysis. This would have settled the question beyond a doubt, had not Prudden, of New York, come to a different conclusion from the examination of twenty-four cases of diphtheria,* in which he failed to find a single instance, either by microscopical examination of membrane, or by culture of the Klebs-Löffler bacillus. As Prudden was a competent bacteriologist Löffler said: "I do not believe that in North America a form of diphtheria prevails different from that with us."

Prof. W. H. Welch, M.D., and A. C. Abbott, M.D., (Bulletin of the John Hopkins Hospital, Volume II, No. 11) review Prudden's cases. All but two of the twenty-four cases occurred in childrens' asylums or hospitals, sixteen being in a

*American Journal of the Medical Sciences, April and May, 1889.

large foundling asylum, in which measles and scarlatina were prevalent. In seven cases the diphtheria was complicated, or preceded by measles, in three by scarlatina, in one by whooping-cough, in four by phlegmosis, or erysipelatous inflammation and in only nine was the diphtheria uncomplicated by previous disease. Of these which were apparently uncomplicated, it is uncertain how many developed in the hospitals, under the same epidemic influences as the majority.

It is evident that the cases examined by Dr. Prudden, taken as a series, could not be regarded as primary diphtheria, but rather as diphtheria secondary to measles, scarlatina, erysipelas, or as developing where these diseases prevailed.

Professors Welch and Abbott further state, that it is remarkable that in not a single instance in the apparently primary cases of diphtheria did Prudden find the Löffler bacillus. His observations cannot be considered contradictory to others who had studied primary diphtheria.

Professors Welch and Abbott wisely concluded that more bacteriological examinations should be made of primary diphtheria occurring in this country.

In May, 1890, these two eminent bacteriologists commenced the examination of membranous exudations in cases of diphtheria, in Baltimore. In all the cases examined by them clinical diagnosis was positive and all were primary cases of diphtheria developing in healthy children in private practice in various parts of that city. Their examinations were made from bits of membrane removed by sterilized forceps, during life.

After separating the bacillus in pure culture, its virulence was tested in each case by the inoculation of Guinea pigs; they had for comparison pure culture of the Löffler bacillus obtained from the Hygienia Institute in Berlin.

The identification of the bacillus in their cases was based upon a study of its morphology, and its behavior in various culture media and its effects when inoculated into Guinea pigs and other animals. In all respects they found it identical with the Löffler bacillus in the culture obtained from Berlin.

This series of experiments removes all doubt that the Klebs-Löffler bacillus is the veritable bacillus diphtheria.

The location of the bacillus diphtheria in the membrane, is thus stated. Most superficially are various kinds of bacteria, among which the Löffler bacillus is recognized; beneath comes a feebly-stained layer, rich in cells, but containing little or no fibrin; in this layer the Löffler bacillus, both singly and in groups are made out. In the deeper layer the Löffler bacillus is abundant. In the layer resting on the mucous membrane no Löffler bacilli are seen. The bacilli are never found in the mucous membrane, nor in sections of internal organs. The Löffler bacilli therefore not only do not invade the mucous membrane, but they usually do not extend through the diphtheritic membrane.

Dr. Wolff of Hartford, claims "that the bacilli of Löffler are found in the mucous membrane and even deeper". He has a section which he says proves his statement.

PSEUDO-DIPHTHERITIC BACILLUS.

The status of the so-called pseudo-diphtheritic bacillus cannot be considered as settled. Löffler finds such a morphological and biological difference between it and the true bacillus diphtheria, as to lead him to regard it as a different species.

Roux and Yersin consider it as a modification of the bacillus diphtheria, from which it only differed by absence of virulence. They claim that the pseudo-diphtheritic bacillus is identical, in its morphology and its behavior in culture media, with the diphtheritic bacillus. The former is only an attenuated form of the latter.

Dr. Abbott, after conducting an extensive series of experiments,* is unable to finally settle the question. Clinically the practitioner cannot distinguish the one from the other; both should be treated the same.

The foregoing history is interesting and of great value: First, as showing the extreme care taken, to logically eliminate every element of error in this most brilliant line of discovery.

Second, that the bacillus diphtheria, when subjected to culture media and inoculated into susceptible animals, not only produces the characteristic membrane at the site of inoculation; but further, is the cause of the paralysis following, a

*Johns Hopkins Hospital Bulletin, October-November, 1891.

symptom observed to be characteristic of diphtheria, for so long a period.

Third, upon these results we can consider the etiology of diphtheria as fully settled.

THE CHEMICAL PATHOLOGY OF DIPHTHERIA.

There is a beautiful harmony existing between the etiology, as embodied in the bacillus of Löffler, being the veritable cause of diphtheria, and the chemical pathology, which is the next step in the line of accounting for the tissue changes which exist in diphtheria.

Sidney Martin, M.D., F.R.C.P., in his Gulstonian lectures on the chemical pathology of diphtheria,* has in his masterly way, given us the most recent status of this most important study. In these lectures he demonstrated in what the diphtheritic poison consists.

His exhaustive study upon the pathology of anthrax, infective endocarditis and tetanus, are applied to diphtheria. Anthrax and infective endocarditis he groups as eminently febrile; while diphtheria and tetanus manifest symptoms referable to the nervous system.

In diphtheria and tetanus the primary infective agent is found only at the point of inoculation; hence, the study of its morphology does not account for the symptoms which follow. A chemical investigation is necessary, not only for the explanation of the symptoms, but for a scientific treatment of the disease. Leaving the study of the pathology of anthrax, familiar to you all, we will direct our attention to the methods described in the chemical pathology of diphtheria.

Dr. Martin conducted his experiments on eight cases dead of diphtheria. His method of separating the poisonous products from the tissue was as follows: The spleen and other tissues, with the blood, are finely minced and placed in rectified spirits, and allowed to stand until the proteids are coagulated; they are then filtered and the residue is then extracted by cold distilled water until nothing more is dissolved. The extracts are evaporated at thirty-five degrees centigrade to a small bulk and placed in absolute alcohol.

*British Medical Journal, March 26th, 1892.

This precipitates most of the albumoses. After standing the alcohol is poured off, the precipitate evaporated to dryness at a low temperature and extracted by absolute alcohol, until nothing more dissolves. The process of dissolving in water and precipitating in alcohol is continued, until all traces of bodies soluble in alcohol and excess of mineral salts is removed.

After the last precipitation, the precipitate is allowed to stand under absolute alcohol for about two months, after which the alcohol is poured off and the precipitate dried in a vacuum.

The resulting product is a light yellowish brown powder, which yields nothing to alcohol, ether or chloroform, and which keeps indefinitely, if put in a dry atmosphere. It is soluble in water, cold or boiling. The alcoholic extract of the tissues is strongly acid and contains an appreciable amount of free fatty acid. Another acid is separated from the first by its solubility in chloroform.

The chemistry of the tissues in diphtheria results in two classes of substances, which are abnormal to the body—one belonging to the digestive proteids, namely, albumoses; the other an organic acid. The albumoses of diphtheria cannot be distinguished from those of anthrax, their physiological effect, a test more delicate than any chemical action, is the only mode by which their specificity is made evident. It is the injection of this substance which causes the symptoms of paralysis.

The fever following the injection of albumoses is very variable, as is the case in the course of diphtheria. In the first animal injected the fever lasted during the seven days that the animal lived. In subsequent injections the fever lasted from one to three days, varying from three to four degrees.

The symptom of paresis is more definitely marked following the injection of albumoses. In the first animal injected, paresis of the left leg appeared on the second day; it was not used so much in jumping. The paresis was more marked upon the seventh day; both legs were effected on the fifth day, and on the seventh day there was paresis of all the legs.

From the injection of these substances a paresis is pro-

duced, which may be more marked in one limb, but is always progressive and general. The paresis is not accompanied by any wasting of the muscles; where one limb is more paretic than the others it does not waste to a greater extent.

The slowness of the coagulation of the blood was also characteristic of this condition of diphtheria.

EXAMINATION OF THE NERVOUS SYSTEM.

Martin next makes an examination of the nerves supplying the paralyzed muscles. His method of studying the peripheral degeneration is to stain the fresh nerve with osmic acid, so that the white substance of Schwann is stained black, and counter-staining with carmine to bring out the nuclei and axis-cylinder. In all the animals the same changes were found.

After staining the motor nerve with osmic acid and following its course, the upper part of fibres are normal. A little lower down they show a breaking up of the white substance of Schwann, which is thin and but little stained by the osmic acid, while lower down the white substance disappears entirely. The primitive sheath of the nerve is intact throughout. The axis-cylinder may be intact down to the point at which the white substance disappears completely. Below the point at which the white substance disappears, the axis-cylinder is in many instances broken. After the rupture of the axis-cylinder, the nerve fibres below the rupture undergo the Wallerian degeneration.

The part of the nerve primarily affected is the white substance of Schwann, which breaks up and finally disappears. The different branches of the motor nerve are affected in a varying degree, so that in an individual motor nerve there may be fibres, which can still innervate the muscle owing to the integrity of the axis-cylinder. This is the reason why the condition observed throughout life is a paresis and not a paralysis. In many nerves the change only affects a few fibres lying side by side, or a single bunch of fibers. This is well seen in many specimens of the phrenic, from these animals.

Martin says, that the heart is found in an advanced state of fatty degeneration; on what it depends, it is difficult to say,

as there is no degeneration of the vagus nerve. It may depend upon the changed condition of the blood, or the diphtheritic albumoses may have a special action on the heart. The sensory and sympathetic nerves show a similar degenerative process, oftentimes segments of degeneration. These changes thus described are produced by the inoculation of diphtheria into previous healthy animals.

Martin next considers the relation of the nerve degeneration to the changes in the nervous system in diphtheria palsy in man.

Many observers, both before and after the appearance of De Jerine's work in 1878, in which he recognizes that paralysis following diphtheria is due to a parenchymatous degeneration of the peripheral nerves, have described changes in the cells of the anterior cornua of the spinal cord, and some have gone so far as to ascribe the symptoms to a mild form of poliomyelitis. The symptoms are not those of an affection of the anterior cornua of the spinal cord, as there is an absence of the wasting of the affected muscles: these are phenomena due to changes in the peripheral nerves. The poison which produces changes in these nerves and fatty degeneration of the heart, may after a time affect the nutrition of the nerve-centers causing a fatty degeneration and atrophy of the cells.

ACTION OF THE ORGANIC ACID.

When the organic acid found in diphtheria is injected, in a watery solution, into the circulation of a rabbit, it produces a moderate degree of fever, which may last two or three days. The animal wastes a little, but has no paralysis following the injection of the acid even after a dose of 0.1559 per kilo of body-weight. The blood coagulates normally. Fatty degeneration follows the injection. The phrenic nerve when examined in its upper half was found normal, while the nerves to the semimembranosus, the vastus and gastrocnemius, show different stages of the characteristic degeneration already described. Organic acid, therefore, found in the body of diphtheritic patients is like the albumoses, a nerve-poison capable of producing the same anatomic changes in the nerves.

THE DIPHTHERITIC MEMBRANE.

The chemical examination of a diphtheritic membrane was conducted, as already described, from the tissues of the body of a diphtheritic patient. Thirty milligrams were injected into a rabbit weighing five hundred and sixty grams. The result of this injection was the characteristic paralysis of the muscles of the limbs, as was described in previous injections. The blood coagulated as already described. The result is important, as it shows that in the membrane there exists a poison which produces exactly the same results as the albumoses found in the spleen and blood of diphtheritic patients, only being much more virulent. There was the entire absence of micro organisms in the tissues of the body.

THE BACILLUS DIPHTHERIA.

All observers agree, that the bacillus diphtheria is limited to the superficial layers of the membrane and is not found in the tissues of the body. When inoculated into the body it kills the animal but its growth is limited to the sight of the inoculation.*

From the facts under consideration it is clear that, first, "the bacillus diphtheria forms from proteid products of the same chemical nature, as those found in the body of patients dead of diphtheria, albumoses and organic acid"; second, "the albumoses formed by the bacillus diphtheria in artificial cultivation have in single and multiple doses the same physiological action as those found in cases of diphtheria in man; this action is the production of fever, of diarrhea, and of loss of body-weight and of progressive paresis of muscles, dependent upon degeneration of the peripheral nerves"; third, "the bacillus diphtheria is therefore the primary infective agent of diphtheria". "That this liberates in the membrane a ferment, which, when absorbed, digests the proteids of the body forming albumoses and an organic acid." "These digestive products are the agents producing death, in causing fever and the depression and paralysis which follow diphtheria." "The diphtheritic product found in the body does not all come from the membrane." In the case where there were but

*Sidney Martin's Conclusions.

a few specks of the membrane found in the larynx; yet in the body a large amount of diphtheritic products was present. It is probable that the ferment absorbed from the membrane digests the more or less stagnant products in that organ. We know that the spleen contains a proportionately greater quantity than the blood of bodies formed from proteids, such as uric acid, etc.

TREATMENT.

There is no disease which is subject to such a latitude of random treatment as diphtheria, some believing diphtheria to be first a local disease, others that it is primarily a constitutional disease, and treat accordingly. Still others give no attention to the nature of the disease, whether it is local or constitutional, but administer one drug for a few hours, and if there is no improvement try another, and so on, meanwhile having no clear conception as to just what is to be accomplished. When death occurs, there is a great feeling of satisfaction that all was done that could be done, because the doctor did not fail to use every remedy possible.

J. Chalmers Cameron wisely says: "If there is one disease more than another in which man should have the conviction and courage to act upon it, it is diphtheria."

From the etiology already given, based upon the researches of Klebs, Löffler and Welch, and the chemical pathology of Roux, Yersin and Sidney Martin, the question may be considered as settled, that diphtheria is first a local disease caused by the bacillus diphtheria, with the membrane at the sight of inoculation and should be treated as such; also, that the bacilli diphtheria liberates a ferment, which, when absorbed, digests the proteids of the body, forming albumoses and an organic acid. These are the agents producing death; fever and paralysis following diphtheria. This is the secondary or constitutional stage of the disease.

In diphtheria we have to deal with the same condition, whether the primary sight of inoculation is nasal, tonsillar, pharyngeal, laryngeal or elsewhere. Hence these local divisions are unnecessary. We should treat the disease and not the location.

We would emphasize the fact that every practitioner should have a clear conception of the condition which he is to treat and a well-defined outline of his methods based upon scientific knowledge.

The first, or local stage of the disease, is necessarily of short duration. If seen in time treatment should be directed to the destruction of the bacillus diphtheria at the sight of inoculation; this done, further treatment is unnecessary.

Ruling out one thousand and one pet nostrums which physicians use without reason, we will confine our discussion to two methods. The first is what is known as the tincture of the chloride of iron treatment, which has constituted the standard treatment by the medical profession for over a century. Second, the bi-chloride of mercury treatment, which has been in use for about fifteen years, although used by some for a longer period.

Professor J. E. Winters, writing on the use of iron, states :* "If we are to obtain the decided effect of the drug in a case of septic diphtheria, at least one dram of the tincture should be administered every hour to a child from two to five years old. We have given two drams for every hour for forty-eight hours for a boy eight years old." This may be taken as a sample of using the iron treatment as a method. Yet Professor Winters states to his class, that with this treatment he loses about fifty per cent. It is safe to say that during the last century the iron treatment has been used by the ablest men of the profession, with a death rate of about forty per cent. and upwards, recording as death from diphtheria those who died before the membrane had disappeared from the sight of inoculation. The large number who have died from a few days to a few weeks, from paralysis and heart failure, the per cent. is unknown.

It is the undoubted experience of all practitioners, that a large number of those treated with iron have paralysis more or less extensive following the disappearance of the local symptoms in the throat.

This is the point to bear in mind in judging of the final value of any form of treatment. The fact that paralysis fol-

*Diphtheria and its Management, p. 36.

lows the use of iron as a treatment so frequently, means that the drug does not exert a controlling influence over the liberation and absorption of the ferment, and its farther action in digesting the proteids of the body and the formation of albumoses and organic acid, which are the causes of the degeneration of the white matter of Schwann in the peripheral nerves, causing the paralysis. It is here that the physician makes the great error in considering the patient cured and recording it as such, as soon as the membrane has disappeared from the location of inoculation, when in fact the most serious trouble is in progress, viz: paralysis and death. The lesson is, that we should not too early abandon the treatment.

THE BI-CHLORIDE TREATMENT.

The corrosive sublimate treatment, used some fifteen years ago by Billatti, is highly esteemed by many.

Dr. Jacobi says:* “Diphtheria cannot be treated by any other drug as well as by the bi-chloride, as it is readily soluble and counteracts the specific poison.”

†Rennet recently reported his year’s treatment with the bi-chloride, the result of which was sixty-two consecutive cases of diphtheria, all of which recovered. In none of his cases was there mercurial poisoning.

His formula is:

Hydrag. chloride corrosive,	.	.	.	1 part.
Acid tartaric,	.	.	.	5 parts.
Aquae,	.	.	.	1,000 “

He applies this solution to the membrane thoroughly every six to twelve hours.

In England the bi-chloride treatment, as advocated by Dr. C. R. Illingworth, has been highly praised. The membrane disappears in from two to five days.

O’Dwyer, in speaking of emetics in laryngeal diphtheria, says, by their aid he has succeeded in getting many cases through; especially those which were put on the bi-chloride treatment at the commencement of the disease, that would otherwise have required intubation. In my own practice I

*Practical Therapeutics. Hare.

†Berlin Klin. Woch., August 26th.

have used the bi-chloride treatment for nine years. During this time I have carefully recorded one hundred and eighty-five cases of diphtheria with six deaths, making a loss of three and two tenths per cent. (One hundred and twenty-eight consecutive cases without a death.) Fourteen were nasal, eight laryngeal. Paralysis appeared in but one case.

	<i>Reported.</i>	<i>Deaths.</i>	<i>Per cent.</i>
1886 . . .	94 . . .	17 . . .	19.14
1887 . . .	66 . . .	28 . . .	43.42
1888 . . .	148 . . .	43 . . .	29.00
1889 . . .	348 . . .	111 . . .	32 00
1890 . . .	130 . . .	63 . . .	48.40
1891 . . .	271 . . .	92 . . .	33.50
	<u>1,057</u>	<u>354</u>	<u>33.39</u>

During six of the nine years in which I have used the bi-chloride treatment, the death rate from this disease in Hartford has been 33.39 per cent. The average death rate in New York City from diphtheria, from 1880 to 1884, was 42.405 per cent.

In the epidemic of diphtheria in Bridgeport, there was reported to the city clerk from March, 1885, to March, 1886, one hundred and thirty-one cases of diphtheria, with sixty-eight deaths, making a death rate of 51.90 per cent.*

In this epidemic ninety-nine per cent. of the physicians in Bridgeport used the iron treatment with chlorate of potash locally.

The writer can better illustrate his method of the bi-chloride treatment by giving a detailed history of a few cases, where corrosive sublimate was the only treatment, and milk the exclusive diet.

Cases thirty-seven and thirty-eight are interesting and instructive, as the history shows.

November 8, 1884, I was called to see a child in consultation with Dr. Coogan, at 34 South Prospect street, fourth floor. The child had been sick five days. When the Doctor first saw the child, he said, there were small spots on the tonsils, which he thought of little account. A day or two later, he said the

*Proceedings of the Connecticut Medical Society, 1886.

child was hoarse and croupy; still he thought there was no danger. On the fifth day he saw the child, who was suffering from extreme dyspnea. I expressed the opinion that it was laryngeal diphtheria, as there was a diphtheritic membrane covering one tonsil. I was of the opinion that treatment would be of no use. The child died a few hours later.

November 24, 1884, two weeks later, was called to see Joseph N. and William H. F., aged two years and three months, and one year and two months, respectively, in the same building on the third floor. The older child had a rough croupous respiration, dyspnea well marked. Bearing in mind the fatal case in the same building, I lost no time in putting the child under treatment. I ordered the wash-boiler put upon the stove and the room well filled with steam and one twenty-fourth grain of corrosive sublimate every two hours, with milk between each dose. I returned in a few hours later and found the treatment had been stopped by a meddlesome old woman, on the ground that it was useless to torment the child, as it would die any way. Treatment was resumed and at my next visit again stopped; a few positive words settled the matter and treatment was not interrupted again.

The next day the younger child, one year and two months old, was taken in a similar way and similarly treated. The breathing in both cases became alarmingly stridulous. They were typical cases of laryngeal diphtheria. Dr. Woods kindly assisted me by making several calls daily to see that the treatment was faithfully continued; I made three visits myself. Four days later, November 28th, the breathing became somewhat easier. There was a steady improvement until the thirtieth inst., when both children were breathing freely. All obstruction was removed and treatment stopped. The older one had taken one twentieth-fourth grain every two hours for seven consecutive days and nights. He showed slight symptoms of gastric irritation, which soon subsided when treatment stopped. The younger one showed no signs of gastric irritation.

Cases number fifty-three and number fifty-four: I was called to No. 17 Chapel street May 18, 1885, ten o'clock p. m., to see George W. P—— and George L. L——, who were

sick with a very malignant form of diphtheria. The third child had just died with diphtheria within two weeks, under the treatment of a clairvoyant and magnetic healer, who had applied blood-root and various other "purely vegetable" remedies to the throats; also gave them Dr. Conant's compound vapor baths, etc., until three had died and two more were very sick.

The cause of the outbreak was the cleaning of a very large privy vault, which had not been disturbed for many years.

George W. P—— had been sick four days with diphtheria. Posterior nares, pharynx, both tonsils were covered with diphtheritic membrane, patient was restless. The fatality that had occurred in this house was good evidence that it was diphtheria, and genuine.

I ordered one twenty-fourth grain of corrosive sublimate every two hours, with milk between each dose. Second day, constitutional symptoms were improved; less restless; less fever. Third day, there was an improvement in the membrane. It began to thin out and granulations began to appear. The treatment was continued every two hours for five days. The improvement was such that I gave it once in three hours for two days longer, when the membrane had entirely disappeared and the treatment stopped. I then gave an iron tonic. He made a good recovery.

George L——, who was sick in the same room, underwent the same treatment eight days and recovered. The clairvoyant doctor seemed less satisfied with the results of these two cases, than she was with those that proved fatal.

There was quite an epidemic of diphtheria in the neighborhood, resulting from the disturbance of this cesspool.

Case number ninety-four: Master Eddie C——, aged four years.

This case furnishes the most valuable study in the use of the bi-chloride treatment of any I had to this date.

The following is the history of diphtheria in this family:

January 7, 1887, I was called to see a case of diphtheria in consultation with Dr. Welch, a girl aged eleven years, whom he had treated for about five days with one twentieth grain of the bi-chloride every two hours. The reason I was called was

the diphtheria had the previous day become laryngeal. We increased the medicine to one twentieth grain every hour. The next day, January 8th, the dyspnea was so great that there was nothing to be done but to relieve the patient's suffering by tracheotomy. At my suggestion Dr. Wainwright was called in to perform the operation of intubation, which was not satisfactory, and later I performed tracheotomy. The child was put on one twentieth grain every hour, with milk and stimulants. Dr. Root stayed with the patient three nights and administered the medicine, which was continued three days, with a fair prospect that the patient would rally. We then gave the medicine every two hours for twelve hours; then every three hours, which was followed by decided failure of the patient, who died January 13, 1887. In reviewing the case it seemed to me that if the medicine had been given every hour for a longer time there would have been a greater chance of saving the patient. With my subsequent experience I am more firmly convinced that my conclusions were right. I have detailed this case, which I saw in consultation, to show its relation to case number ninety-four, which I treated in the beginning in the same family, to which we will return.

January 8th, Eddie C——(brother of the one just related) was sick; examination revealed a large membrane on one tonsil. Dr. Welch asked me if I would take charge of the case. He said he would render me any assistance he could, but wished me to direct the treatment, which I did. One twentieth grain of bi-chloride of mercury was given every hour from eleven a. m., January 8th, until January 9th, seven p. m.; thirty-two hours, one and three fifths grains. The improvement was such that I gave one twentieth grain every two hours until January 11th, seven p. m.; forty-eight hours, one and three fifths grains. The medicine was then given every three hours until January 12th, eleven thirty p. m. The membrane rapidly extended through the entire nasal passage so that it could be seen in the anterior nares. I then returned to the one twentieth grain every hour, which I continued for seventy-two consecutive hours; three and three fifths grains were given. There was sufficient improvement to again warrant my administering the medicine every two

hours, which was done for twenty-four hours; three fifths of a grain was given. The medicine was given one twentieth grain every three hours until January 17th, nine a. m., when treatment was stopped; seven and three twentieths grains were given in nine days. Dr. Wainwright saw the case several times. He came in just as I had stopped the one twentieth grain every hour, which had been given seventy-two hours. The doctor was surprised to see how bright the little fellow was after this treatment. He said our theories must be wrong as to the use of the bi-chloride of mercury. The doctor related the case in the Hartford Medical Society at the next meeting. The two cases acted similarly; one suddenly becoming laryngeal and the other nasal. As the vigorous and long continued use of the medicine in the latter case resulted so favorably, I believe it would have been equally successful in the former, had we pushed the treatment as persistently. I will further add that the same family lost a child, a few months previous in the same house, of diphtheria. The teaching of my successful case in this family is, that it is necessary to give the large dose and continue it until there are marked signs of improvement, and that there is great safety in so doing.

Case number one hundred and twenty-one. Laryngeal diphtheria.

I was called to Wethersfield in consultation with Dr. Fox, January 15, 1888. The patient, aged fifteen years; Dr. Fox gave the following history:

Thursday, January 12th, he was called to see the patient, who was suffering from a sore throat. Complete aphonia and marked dyspnea. He was put under treatment and there soon appeared a diphtheritic patch on the pharynx, which soon spread to the tonsils. When I saw the patient there was complete aphonia; pharynx, tonsils, palate and uvula were covered with a solid diphtheritic membrane. The boy lay on his back, mouth wide open, breathing heavily; the case looked doubtful. I advised the giving of one tenth grain of corrosive sublimate every hour and milk one half hour later, with stimulants. The first dose was given at six thirty p. m., January 15th. I saw the patient the next day—condition about the same, only that the membrane was softening a little. I advised

the same treatment continued until January 17th, seven thirty a. m. Patient had now taken one tenth grain of corrosive sublimate every hour for thirty-five hours ; three and one half grains had been given ; a marked improvement in the patient ; medicine was given less frequently ; at the end of five days treatment was stopped.

In five days five and seven tenths grains of corrosive sublimate had been given. The first movement of the bowels was in forty hours after treatment commenced, the second fifty-six hours after treatment commenced, the third sixty hours after treatment commenced, the fourth eighty-one hours after treatment commenced. No paralysis following, he made an excellent recovery.

Those who have used the bi-chloride treatment intelligently get the most satisfactory results, as far as the prompt disappearance of the disease is concerned. The important point is, that the cases so treated not only make a satisfactory recovery immediately, but are exceptionally exempt from paralysis and heart failure, following the disappearance of the throat symptoms.

This one fact of the absence of paralysis would leave grounds for a legitimate conclusion, that the bi-chloride of mercury has a controlling influence over the production of albumoses and an organic acid ; known to be the direct cause of death, paralysis and heart failure, as previously stated. If this be so, we have in the bi-chloride of mercury a remedy, which, when properly used, will prove of incalculable value in the treatment of diphtheria.

As has been seen from case number ninety-four, I have administered one twentieth grain of corrosive sublimate for seventy-two consecutive hours with most beneficial results. In case number one hundred and twenty-one I used one tenth grain for thirty-five hours with no constitutional symptoms.

The best results are secured when no cathartic effect follows the administration of the medicine. In case of looseness of the bowels I usually give a little morphine to control the movements. The more completely the mercury is retained in the system the more rapidly is the disease controlled.

The treatment should be administered according to the

severity of the disease, irrespective of the age or weight of the patient. A malignant case of diphtheria is just as hard to control in an infant as in an adult. In my experience it requires just as heroic treatment in one case as in the other. The sooner the patient is brought under the control of the mercurial, in the infant or adult, the shorter will be the duration of the disease and less of the drug will be administered.

FORTY-ONE CASES OF INTUBATION OF THE LARYNX.

BY HENRY BLODGET, B.A., M.D., BRIDGEPORT.

An apology is due, I am afraid, to the members for bringing up a subject which has of late become so trite as intubation. Little, if anything, however, will be attempted in this paper except a simple report of these few cases, with the hope that they may perhaps have a certain local interest from the fact that they occurred and were treated here in our midst during the past six years, and must fairly represent the cases that are occurring from time to time in the practice of any one of us.

Case One—Boy, aged six years, seen in consultation with Drs. Wright, Lauder and Wordin. Symptoms were extreme laryngeal dyspnea, loss of voice, hoarse cough and other signs of obstruction of the larynx, considerable cyanosis, no membrane in sight in the pharynx. Death was regarded as certain within a few hours. Great relief followed the introduction of the tube. Diphtheritic membrane appeared upon the tonsils upon the following day. The tube was removed five days after its introduction. No return of the croupy symptoms followed, but the child died two days later from exhaustion and with signs of commencing pulmonary inflammation.

Case Two—Female, aged four years, sick three days already. There was diphtheritic membrane in the pharynx, extreme dyspnea, restlessness, loss of voice, cyanosis, and other signs of impending suffocation. Immediate relief followed the introduction of the tube. After fourteen hours the respirations began to grow rapid and the child died twenty-four hours after the introduction of the tube, from extension of the diphtheritic process into the bronchi. Seen with Drs. Sheffrey, Lauder and Wordin.

Case Three—Male, four years of age, three days sick with diphtheria of the pharynx and croup. Child entirely unconscious from carbonic acid poisoning and almost expiring. He revived in about half an hour under artificial respiration, but died eighteen hours later from extension of the diphtheritic process into the bronchi. Seen with Dr. Young.

Case Four—Male, aged six years, had diphtheria of the pharynx and croup, with extreme difficulty of breathing. Insertion of the tube gave the usual relief. The tube was removed three days later. There was no return of dyspnea. Recovery followed without further bad symptoms, except albuminuria, which persisted for some time but finally disappeared. Seen with Drs. Wright, Kelly and Osborn.

Case Five—Boy, six years of age, sick two days. No membrane was in sight. The symptoms were croupy, severe and distressing. Insertion of the tube gave the usual relief. Several good-sized pieces of membrane and many shreds were expectorated during the next three or four days. The tube was removed on the sixth day. Recovery resulted without further bad symptoms. Present, Drs. Wordin, Lauder and Wright.

Case Six—Boy, aged six years, sick four days. No membrane was in sight, dyspnea was extreme, cyanosis beginning. The child was relieved by insertion of the tube, which was removed four days later. No return of croup. Death followed four days later from broncho-pneumonia. Drs. Wordin, Bunnell and May.

Case Seven—Boy, aged five years, had been sick ten days with diphtheria of the nose and throat. He had had croup three days. There was great obstruction to breathing and the child was sinking rapidly from carbonic acid poisoning. He got the usual relief from the tube, which was removed four days later. Recovery.

Case Eight—Boy, six years and nine months old, had had croup four days, with great obstruction to breathing and marked cyanosis. The tube gave the usual relief. It was removed four days later. The dyspnea, however, returned, and becoming severe after five or six hours, it was re-inserted eight hours after. It was coughed out in six hours and had

to be again replaced four hours later. The child died five days after of broncho-pneumonia and exhaustion. Dr. Bill present at the insertion.

Case Nine—Girl, aged six years, sick four days with croup, but no membrane in sight. Dyspnea was intense. The tube gave relief and her condition remained good for a day and a half. The respirations then became rapid and the child died twelve hours later from extension of membrane into the bronchi. Drs. Martin, Lauder and Wright were present.

Case Ten—Boy, five years old, sick five days with diphtheria of the pharynx and croup, with intense dyspnea and cyanosis. He derived relief from the tube, which was removed on the fourth day. Recovery. Dr. Wright's case.

Case Eleven—Boy, two and a half years of age, with croup and diphtheria of the pharynx. Had been sick three days and had great difficulty of breathing and cyanosis. He received relief from the tube, which was removed four days later. On account of a return of dyspnea the tube was re-inserted after two hours and was finally removed nine days after its first introduction. Recovery, with considerable diphtheritic paralysis during convalescence. Drs. Kelly and Lynch present.

Case Twelve—Girl, seven years of age, with diphtheria of the pharynx and croup. Had been sick four or five days. The child was entirely unconscious from suffocation. Some edema of the lungs was already present. The tube relieved the obstruction, but the child did not regain consciousness, dying in four hours. Dr. Wordin's case.

Case Thirteen—Girl, aged four years, sick six days with diphtheria of the pharynx and croup. There were cyanosis and very great difficulty of breathing. The tube gave relief. It was removed after two days, but the child died twenty-four hours later of exhaustion, but without return of dyspnea. Dr. Holmes' case.

Case Fourteen—Girl, aged ten years, sick five days with diphtheria of the pharynx and croup. The difficulty of breathing was very great but relieved by tube, which was removed five days later. There was no return of the dyspnea. Recovery. Drs. Lauder, Rice and Wright.

Case Fifteen—Boy, three years old, sick four days with

diphtheria of the pharynx and croup. Cyanosis and great distress for breath were relieved by the tube, which was removed one day later; no return of dyspnea. Death from exhaustion in twenty-four hours more. Dr. White's case.

Case Sixteen—Boy, two years old. No membrane in sight, extreme swelling of tonsils and walls of pharynx, and also of cervical lymphatics. Extreme difficulty in breathing, loss of voice, croupy cough, etc. Tube inserted but did not do much good. Died in eighteen hours. Dr. Lynch's case.

Case Seventeen—A boy eight years old, sick ten days with croup and diphtheria of the pharynx. There was great difficulty of breathing; suffocation was impending. The tube gave immediate and marked relief. The child, however, died suddenly about six hours later from obstruction of the tube, which was found after death filled with dried secretion closely resembling glue. Dr. Bill's case.

Case Eighteen—Girl, five years of age. A malignant case of diphtheritic membrane in the nose and pharynx. There were croupy symptoms with intense dyspnea; cyanosis came on rapidly. The tube gave marked relief to breathing, but the child failed rapidly, and died twenty hours later. Dr. Lauder's case.

Case Nineteen—Boy, aged three years, sick three days. No membrane in sight. There were croupy symptoms, marked and distressing; great relief was gained from the tube. The tube was removed three days later and replaced in twelve hours on account of a return of the dyspnea. It was removed again in three days and followed by no return of difficult breathing. Recovery without further trouble. Dr. Wright's case.

Case Twenty—Girl, three and a half years old, sick four days. Membrane in left nostril, none in sight in pharynx. Extreme laryngeal dyspnea, marked and increasing cyanosis. The tube gave immediate relief. It was removed in five days and replaced in less than half an hour, on account of the return of difficult breathing; removed again in seven days, and again replaced within an hour on account of returning dyspnea, and finally removed eleven days later, thirty days after the first introduction. Recovery. Dr. Holmes' case.

Case Twenty-one—Boy, aged six years, with diphtheria of the pharynx and croup; great dyspnea, relieved by the tube. The boy did well for thirty-six hours. The breathing then became rapid and the boy died fifty-two hours after the operation from extension of the membrane into the bronchi. Dr. G. F. Lewis of Stratford.

Case Twenty-two—Boy, aged six years, sick four days. No membrane in sight. Croupy symptoms very severe; some cyanosis present. The tube gave immediate relief, the boy remaining comfortable about twelve hours. The breathing then grew rapid and he died twenty-four hours after the operation, from extension of the membrane into the bronchi. Dr. Hill of Stepney.

Case Twenty-three—Girl, aged seven months, sick four days. Breathing was obstructed and difficult; the child deeply cyanosed and unconscious, so that death seemed likely to occur at any minute. The tube gave great relief to the breathing, and the child recovered consciousness after five or six hours. The following day, however, the breathing became rapid and the child died of extension of the membrane into the bronchi. Dr. Graves' case.

Case Twenty-four—Girl, four years of age. A malignant case of diphtheritic membrane in the pharynx, with great difficulty of breathing and marked cyanosis. The tube gave great relief. The patient's condition was good for twelve hours. Rapid breathing then began and the child died six hours later from extension of the membrane downward. Dr. Gilroy's case.

Case Twenty-five—Girl, two years and five months old, sick two days with membrane in the pharynx and croup, extreme dyspnea and beginning cyanosis. The tube gave immediate relief, but was coughed out in about ten hours and had to be replaced as soon as possible; it was again coughed out, thirty-six hours after being first introduced, and although there was a great deal of hoarseness and some dyspnea it was not necessary to again introduce it. Recovery. Dr. Lynch's case.

Case Twenty-six—Girl, aged three years, sick four days with diphtheria in the pharynx and croup, great difficulty in breathing, distress, cyanosis, etc. The tube gave great relief. It

was removed on the third day and recovery followed without further trouble. Dr. Lynch's case.

Case Twenty-seven—Boy, seven years old. Diphtheria and croup, sick several days, with great distress in breathing, restlessness, cyanosis, etc. Introduction of the tube gave only partial relief. The boy died suddenly eight hours later, probably from obstruction of the tube by loose membrane. Dr. Bill's case.

Case twenty-eight—Girl, one year and a half old, with diphtheria of the pharynx and croup, great difficulty of breathing, extreme weakness and cyanosis. The tube gave relief but produced no real improvement in the child's general condition. Death followed in six hours from exhaustion and pulmonary congestion. Dr. Young's case.

Case Twenty-nine—Girl, aged six years, sick two or three days with diphtheria of the pharynx and croup, great difficulty of breathing, which was rapidly increasing; circulation and strength of patient fair. The tube gave immediate relief. It was removed after four days. Recovery followed without further bad symptoms. Dr. Lauder's case.

Case Thirty—Boy, seven years old. Malignant diphtheria and croup; great distress and difficulty of breathing. The tube gave relief as usual but the general condition of the patient was not otherwise improved by it. The boy died of exhaustion eighteen hours later. Dr. Holmes' case.

Case thirty-one—Girl, aged fourteen months, sick four or five days with diphtheria of the pharynx and croup, extreme dyspnea, cyanosis, feeble pulse, general condition poor. The tube relieved the difficulty in breathing, but the child did not rally and died in less than twenty-four hours after operation. Case of Dr. Day of Westport.

Case Thirty-two—Boy, eight years old, sick three days with croup; no membrane in the pharynx. The symptoms were difficulty of breathing very great, voice reduced to a whisper, croupy cough, circulation feeble and imperfect. The tube gave immediate relief. Membrane appeared in the pharynx next day.

Of two more cases (thirty-three and thirty-four) I have a very incomplete record. One was a boy three and one half

years of age, suffering greatly from laryngeal obstruction, who received entire relief from the operation, but died thirty-six hours afterward from extension of membrane to the bronchi. The other, a little girl, attacked suddenly in the night with most intense dyspnea. Nothing but redness and swelling were to be seen in the throat, and no previous history of illness except that of a cold. The tube afforded no relief and the child died half an hour later.

Case Thirty-five was seen and operated upon October 28, 1891. There was diphtheritic membrane in the pharynx, dyspnea, aphonia, lividity, and other signs of obstruction of the larynx, with marked constitutional disturbance. Introduction of the tube was followed by marked relief. Tube removed on the third day, but had to be replaced on account of returning dyspnea, after five hours. The child died of exhaustion two days later. Seen with Dr. Cowell.

Case Thirty-six—Boy, aged six years, October 31, 1891. Diphtheria and croup. All the usual signs of extreme laryngeal obstruction were present. The tube was inserted, giving immediate relief. It was coughed out after two hours. The next larger size was then introduced and retained. It was removed entirely upon the fourth day after introduction. There was no return of dyspnea, and the boy seemed likely to recover. Suppression of urine, however, came on a day or two later and he died of uremia and exhaustion ten days after the tube was finally removed. Seen with Drs. Warriner and Godfrey.

Case Thirty-seven—Boy, aged two and a half years. Diphtheria and croup. All the signs of great obstruction of the larynx present on January 21st, but my case of instruments had been stolen and another could not be secured and operation done until January 22nd. The child was then in "articulo mortis", livid, almost entirely unconscious, breathing about seventy times per minute. The operation gave relief, and the child improved for a time, but died of exhaustion thirty hours later. Seen with Dr. Wright.

Case Thirty-eight—Girl, six years of age. She had had measles one week previous to the operation. After disappearance of the eruption a croupy cough remained, which grew worse. Finally the voice was entirely lost and the cough sup-

pressed. Dyspnea developed gradually and finally became intense, so that suffocation was impending. Operation January 22nd. The tube gave instant relief. It was removed on the fourth day and uninterrupted progress toward recovery followed. The condition is believed to be due to ulceration in larynx, and swelling therefrom. Seen with Drs. Wright, Cummings and Ward.

Case Thirty-nine—Girl, aged three years. Diphtheria and croup. Patient livid, weak, with intense laryngeal dyspnea. Had been sick five days. Operated upon January 31, 1892, and immediately relieved thereby. Relief, however, was only temporary, and the child died about sixteen hours later. Seen with Dr. Wright.

Case Forty—Boy, aged five and one half years. Diphtheria of fauces and tonsils; posterior pharyngeal wall thickly covered with membrane. Croupy symptoms began on the third day of the disease; increased in severity and operation became necessary, which was done two days after croupy symptoms began. Tube removed on the fourth day after introduction. Boy recovered without further bad symptoms. Seen with Dr. Lynch.

Case Forty-one—Girl, aged two and a half years. Had had diphtheria for five days at the time of the first visit. Membrane on both tonsils and posterior wall of pharynx. No croup. Croupiness began on the following day, and gradually grew worse. After continuing for two and a half days, death by suffocation being eminent, the family finally consented to an operation and the tube was introduced. The child did well afterward and on the third day after, the tube was removed. The membrane had meanwhile disappeared from the throat. Dyspnea rapidly returned after removal of the tube and re-introduction was necessary six hours afterward. The tube was again taken out three days later and had to be put in again after being out for fourteen hours. Three days later the tube was again and finally removed, and the case made an uninterrupted recovery. Seen with Drs. Lynch, Godfrey, Ward and Haskell.

This makes, therefore, in all, forty-one cases, of which twenty-six have died and fifteen recovered.

The deaths were due as nearly as could be determined without autopsies to:

First—Pneumonia, three.

Second—Extension of membrane in bronchi, seven.

Third—Occlusion of the tube; (a) by direct secretion, one; (b) by loose membrane, one.

Fourth—General exhaustion from blood poisoning, or from too great delay in operating, twelve.

Sixth—Unknown cause, one.

Of the comparative merits of this operation and tracheotomy, of the dangers and complications occurring, of the various modifications of the instruments used, etc., I will say nothing, as they have already been thoroughly discussed. But I will venture to suggest for discussion, at least, the question of the responsibility in reference to this operation, of a physician when treating a case of diphtheritic or membranous croup. It is no longer sufficient to say that this operation is still an experiment, of doubtful utility, and that conservative physicians are waiting for further reports upon the subject. This may satisfy the ease-loving physician, but not the conscientious one. The number of cases of intubation has reached into the thousands, the average results are a trifle better than those of tracheotomy, the operation is slight, almost instantaneously done, receives the consent of the parents much more readily than does tracheotomy, and can be done by any physician who will devote but very little time to preliminary practice. The lives saved by it are surely worth trying for. The cases which have been just reported were all of them seen by two or three physicians, who unanimously agreed that they were hopeless without operation, and nearly all of the operators state that it has been their rule to wait until the croupy symptoms were very severe. It would seem to be no more than common justice to our patients to urge this operation in all cases where the obstruction to breathing had passed the stage in which it could be regarded as merely spasmodic.

SCHOOL LIFE IN ITS RELATION TO THE EYES.

BY W. T. BACON, M.D., HARTFORD.

In these days of kindergartens, the period of school life extends from ten to twenty-five years, and as education advances in this country more time and closer attention are given to study and consequently more use is required of the eyes.

The questions which especially interest us as medical men are: Does school life under our present system tend to cause permanent injury to the eyes, and how can this injury be reduced to the minimum?

When we consider that the school period is also the period of growth and development, and that the result may be permanent impairment of the vision, or restricted use of the eyes, with chronic headache, or some of the many nervous symptoms dependent on the eyes; then it becomes us as physicians and advisers of the public in matters of hygiene to carefully study the subject.

The most common and perhaps the most to be dreaded result of improper use of the eyes during the growing period is myopia. There is a large amount of literature on the causes of myopia and between fifty and one hundred thousand eyes have been examined in order to obtain the percentage of the disease, for if not a disease in its early state, it soon becomes one. The conclusion of the whole matter is that myopia is almost unknown in infancy, and rarely discovered before the beginning of school life, increases in frequency from eight to ten years of age, and reaches the highest percentage in the period from ten to fifteen. Nearsightedness rarely develops after the age of twenty—so rarely that Professor Donders states that he has never seen a case of myopia develop after the twentieth year, while others place the age as low as sixteen.

As illustrations of the above remarks a few figures from tables prepared by Dr. Loring, the results of examinations made by him of the eyes of school children, are here given: Of years from six to seven, 3.55 per cent. were found myopic; eight to nine years, 4.65 per cent.; ten to eleven years, 7.75 per cent.; twelve to thirteen years, eleven per cent.; fourteen to fifteen years, 8.4 per cent.; sixteen to seventeen years, 17.2 per cent.; eighteen to nineteen years, 25.08 per cent.; twenty to twenty-one years, 26.79 per cent.

In order to answer the question, does study tend to increase nearsightedness? statistics have been taken by several observers, comparing those of the same age, and it was found that while in the country schools four per cent. were myopic, in the city schools ten per cent. show the same condition of the eyes. Again, comparisons have been made of the scholars in the same schools, under the same influences, and it was found that myopia kept pace with the length of time they applied their eyes. These statistics were compiled by Erisman, who examined 4,358 scholars. There were seventeen per cent. nearsighted of those who studied two hours out of school, twenty-nine per cent. of those who studied four hours, and over forty per cent. of those who studied six hours. The experience of most oculists, fortified by such statistics, have led them to the conclusion that nearsightedness is proportionate to the amount of study.

There is, however, another element in the production of myopia which must not be lost sight of, namely, hereditary influences, and that this is a very potent one is shown by a comparison of different nations. Dr. Callan found in his investigation of the eyes of colored school-children only three per cent. of myopia. Examination of Russian children gives forty-three per cent. nearsighted; American, twenty-seven per cent. and German sixty-two per cent. These figures would seem to indicate that those nations which have applied themselves to study for a number of generations develop after a while a large percentage of myopes.

We have seen that the great period for the development of myopia, that is for its beginning, is from the age of ten to fifteen, which corresponds to the time of the most rapid bodily

development. During this time the tissues of the eye are comparatively yielding and from the constant pressure of the fluids an elongation of the eyeball is produced, which is the condition of the nearsighted eye. Close and long continued application of the eyes increases the tension of the watery elements, thus favoring the result. The most obvious remedy for this condition of affairs would be a lessening of the amount of study during the years from ten to fifteen, but this seems almost impossible until the views of our educators are greatly changed. At present the tendency is all the other way, namely, to increase the standard and the amount of work to be done before the higher educational institutions are entered. It is our duty as medical practitioners to protest against the continuance of this high pressure and at every opportunity to instruct the public and warn them against the evils which result from the present methods of instruction. An opportunity is afforded for such instruction in this state, as one or more medical men are found on almost every school-board or committee, and their influence would be great when fully aroused to the importance of this subject.

Having recognized that there are limits to the power and endurance of the eyes of school-children, we have before us the problem of how to guard them against the abuse and as far as possible assist them to perform the amount of work required. As the visual apparatus is a part of the body and greatly influenced by the condition of the other parts, its proper care becomes at once of the utmost importance, therefore the hygienic condition of the school-house should be carefully looked into. This includes the ventilation, sanitary arrangements, lighting of the room, position of the seats. The arrangement of the shades and position of the desks is a problem in each school-room, also attention should be given to the amount of vision of each pupil, so that those deficient in sight may be placed in the most advantageous position.

The selection of the school-books, as to the size of print, the kind and quality of paper and the adaptation of the same to the visual power, is a matter of importance and can only be obtained by an examination of the eyes of each scholar. Young children are very prone to hold their book much nearer

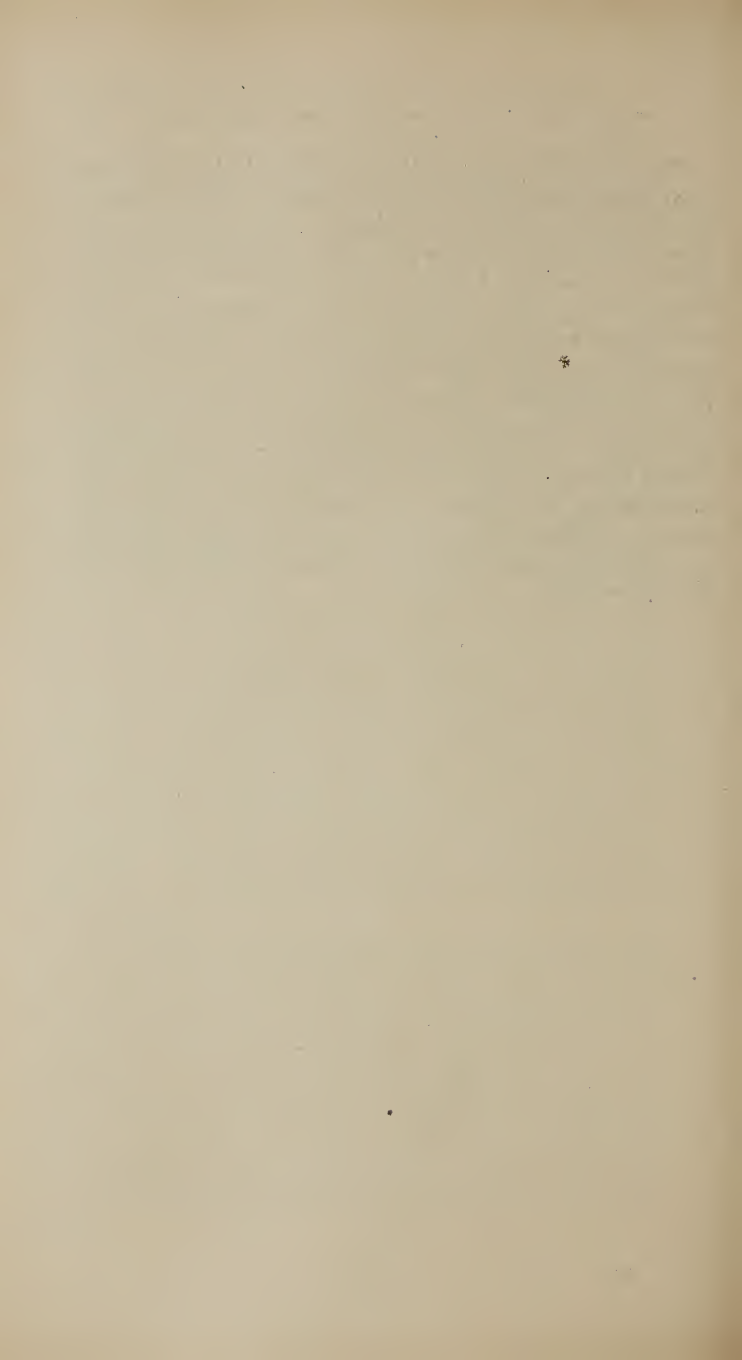
than is necessary for distinct vision, for the reason that as their accommodation is great the retinal images are larger and plainer, but at the same time the habit is injurious and tends to make them nearsighted. For this reason the print of the books selected should be much larger than would seem to be required.

Constant attention should be given to the position of the body, eyes and book. In days gone by it was a matter for punishment if a child looked up from his book during the study hour, but now better methods prevail in this respect. In order to avoid continuous application of the eyes to objects near by, it has been suggested that more time be given to instruction on the blackboard and by oral methods. Parents whose children appear to have any difficulty in using their eyes, should be advised to consult an oculist for an examination and the adjustment of proper glasses. The supervision of all the matters requires constant and intelligent care, and as the time of greatest danger is while the pupil is in the intermediate and primary grades, it makes it more difficult to devise a plan by which this may be accomplished in a practical way. In the cities physicians might be appointed whose duty it should be to frequently inspect each school-room and examine all the children once or twice a year. There should be some governing board behind him with power to correct such abuses as he may report and see that his recommendations are carried out. In towns and cities where there is a Board of Health they would seem the proper persons to have charge of the inspections.

“Dr. Jackson reports that there are a few schools which have a supervising medical officer and that they are to be congratulated on their position as one of growing importance and certain in the future of recognition and honor.”

In some cities the Health Inspector visits the schools and looks after the sanitary arrangements, but as far as I know does not examine the scholars, nor look after the light and position of the desk. To do this would require a large number of inspectors with a special training and more money than the people are at present willing to appropriate for the Health Board.

The country schools would have to be reached in a different way, namely, through the teachers, and this would require a special training. The great majority of the teachers of the present day have received training from some Normal School, College or Teachers' Institute, and it would seem practical that as a part of their education they should be taught simple methods for testing the eyesight, the proper illumination for easy vision, what are faulty positions for using the eyes and how to correct them. They would not be expected to do the work of an oculist, nor should they attempt it, but sufficient knowledge to correct the daily abuses to which the children subject their eyes would be of inestimable value to many who otherwise will be doomed to go through life with damaged eyes or impaired nervous systems, and at the same time help to check the growing tendency of the educated classes to become myopes.



DISCUSSIONS.

The two following discussions on Dr. Eliot's paper, Disorders of the Nervous System Associated with the Menopause, should have been placed immediately after that paper, upon page six hundred and eight, but were not received in time.

Dr. Barber said he was very much in doubt whether the menopausal age had much to do as a factor in the causation of nervous derangement.

If so, why should not more be written on the subject? Very few works allude to the matter either in the text or index, save incidentally. Why exclude it if it bears any relation to disease?

He believes that the pathological changes are often mistaken for the physiological.

Patients are so prone to present such endless number of unusual and varying symptoms; so many are fanciful; so many are exaggerated, that but little reliance can be given them as factors collectively of any disease occurring at the cessation period.

From his experience he was not sure that woman, healthy, perfectly organized, does suffer, or was made to suffer at the menopause. If she does suffer mental or nervous disturbances, then puberty, the stage of evolution, was marked by suffering. The interval between the two processes of functional life, evolution and involution, was marked by suffering which of course continued through this epoch of her menstrual history.

Such a woman has been an invalid from the beginning, nor more so at the menopause, but not from the structural changes, not from the atrophy, or involution of the sexual organs, but from some morbid condition of her constitution, malposition, or pathological state of her tissues. I believe fewer women consult me between forty and fifty, than between thirty and forty. Therefore fewer women suffer at the menopausal age.

And it is a fact that statistics show less mortality at that period than before.

The menopause is often established prematurely by the removal of the ovaries and tubes, for the purpose of curing many mental disorders.

How frequent the operation of ovariectomy is performed to-day, with the enjoyment of good health, both of body and mind. If numerous nerve disorders was the result, what advantage do we obtain?

How many women pass through this so-called critical stage with symptoms so trivial that the attention of the medical adviser is not even called to them. They expect some discomfort, some sudden changes in temperature and circulation, some excitability of mind, some irritability of temper.

These symptoms appear, they are expected, and so they do not greatly distress them.

Then there are a few women—as compared with the large majority—that do present symptoms of derangement of the nervous system, sometimes of the organic nervous, sometimes of the cerebro-spinal, sometimes of the sympathetic neurasthenics, if I may be allowed the coinage.

The general pathology of such a neurosis is not perfectly clear, but I do not know that the nerve symptoms are more troublesome at the menopause.

I want to make emphatic in this discussion the necessity of careful examination of the organs of the pelvis, when as patients they come to us. Be thorough. Know if they have any disease at this menopausal season.

If menstruation be excessive or too frequent at thirty, we search for the cause and find disease of the endometrium, fungosities, fibroids or epithelioma; if at forty-five or fifty, we say to the same patient, "Madam, it is the change of life", and neglect to note what the factor is that prevents the uterus or ovary from undergoing its normal atrophy.

Dr. F. K. Hallock said that it is well to emphasize the idea that the menopause is not a direct cause per se of nervous or mental disorders. It is only one of several factors and its importance is determined by studying the entire previous life

of the individual. An accurate knowledge of the heredity, environment, physical condition and mental characteristics is of prime necessity and furnishes the key to the right understanding of all these climacteric disturbances.

The menopause is a physiological process and disorders of the nervous symptom are not an accompaniment of this process unless there exists a neurotic basis or organic predisposition. Hence it follows that if nervous or mental symptoms are present they should be considered due, not to the menopause, but to the organic predisposition, plus the menopause, the former condition making it possible for the latter to act as an excitant in the development of a neurosis or psychosis.

The following points, developed by the study and analysis of a large number of cases personally recorded, may be of interest:

I. Heredity.

(1) When most pronounced: Symptoms present in childhood about the time of puberty and continue or re-occur at intervals during the period of sexual activity, with exacerbation at the menopause.

(2) When less pronounced: Symptoms present in childhood but absent until menopause and then re-appear.

(3) When least pronounced: No prominent symptoms until the menopause.

II. Neurasthenia occurring for the first time at the menopause is very rare and in the great majority of cases the neurasthenic and hysterical symptoms connected with the menopause are but the continuation or exacerbation or re-occurrence of former attacks.

III. Vertigo is the most common of all symptoms. Greatest tendency to inebriety and suicide at this period. Increased sexual desire just before or at the beginning of the menopause.

IV. The most prevalent psychosis is that of depression, a melancholia of a sub-acute delusional type and religious tincture.

SECTION OF MATERIA MEDICA,
THERAPEUTICS AND
CHEMISTRY.

SECTION OF MATERIA MEDICA, THERAPEUTICS AND CHEMISTRY.

The meeting of the Section of Materia Medica and Therapeutics opened at three p. m., Wednesday, the 25th.

Dr. R. S. Goodwin first read an excellent paper on Characteristics of Modern Therapeutics.

The second was read by Dr. Rufus W. Griswold on The Materia Medica and Therapeutics of a Hundred Years Ago.

Dr. Carl E. Munger followed with a paper on The Petroleum Preparations—Their Therapeutic Uses in Nose and Throat Affections.

The fourth paper, The Alcoholic Question a Hundred Years Ago and To-day, was read by T. D. Crothens.

The fifth paper was read by Dr. C. B. Newton, on Koch's Tuberculin as a Means of Cure in Tuberculosis.

Dr. Foster followed in discussion. That Koch's lymph is disappointing, all admit. It is even so stated in the papers. It does not cure. It relieves. He uses it now, but he was criticised for his first injection. Now, however, the patient was up and would leave town to-day. The dulness was arrested. In acute cases it kills; in chronic cases it arrests. Koch is on the right track, but has not got to the true cure yet.

THURSDAY AFTERNOON.

The Prophylaxis of Typhoid Fever, an interesting and practical paper, was read by Dr. C. J. Foote.

Dr. F. W. Wright wanted to emphasize the necessity of thoroughly disinfecting the stools. He did not believe it was generally done by physicians. In a recent epidemic he found only one physician who had disinfected thoroughly. He believed the milk-supply will produce the disease. Mentioned a case where the water of a dairy farm came from a well on the side of a cow-yard.

Dr. Barker reported a case of typhoid fever which was traced to a well which had been unused for forty years. It was often difficult to trace the source of a case.

A case was reported where an artificial pond of water had been drawn off and the decaying vegetation produced some typhoid remittent fever.

Dr. Fleischner emphasized the fact that there is no such thing as bovine typhoid.

Dr. Griswold maintained that a specific germ is needed to produce the disease. Filth will not produce it if the specific germ is absent.

Medication in Cardiac Disease was read by Dr. H. Fleischner.

Dr. Osborne, in the discussion, spoke favorably of camphor as a cardiac stimulant in weak heart, of strychnia as a heart tonic in chronic acute disease, nitroglycerine in uremic congestive heart weakness, also in immediate heart failure. Digitalis is the best drug in edema of the lung, with dyspnea.

The History of Empiricisms During the Last Century, by H. S. Fuller, was read by Dr. Beech.



THE CHARACTERISTICS OF MODERN THERAPEUTICS.

ADDRESS OF THE CHAIRMAN, R. S. GOODWIN, M D., THOMASTON.

Gentlemen of the Connecticut Medical Society :

In entering upon my duties as Chairman of this Section, permit me to express my appreciation of the high honor conferred, perhaps unworthily, upon me. The gentlemen who have kindly consented to prepare papers for this occasion, and those who are to take part in the discussions, have my hearty thanks. Their names are a guarantee that the subjects which have been selected will be presented in a scientific and forcible manner.

The existence of a separate Section of Materia Medica, Therapeutics and Chemistry, on this Centennial Anniversary of our Society needs no apology from me ; for however zealously we may be engaged in other professional studies, the most important and practical acquirement after all, is a masterful knowledge of therapeutics—an ability to cure disease after its diagnosis has been made.

I feel sure, therefore, that the many earnest and busy practitioners of our Society, whose chief object of solicitude is always to succeed in the use of remedies, will gladly assign to materia medica and therapeutics at this time, a large place in their professional studies and deliberations, and that each will contribute his share towards making this Section on this occasion, a gratifying success.

In the short time which I shall occupy in addressing you, I propose to sketch in as concise a manner as possible, some of the essential features of the therapeutic practice of our own time, and to point out in what respect it differs from that of a hundred years ago.

Early in this century, the excesses of the old system of

debilitating, depleting and eliminating treatment, had already partly given way to the opposite extreme of stimulation advocated by Brown and his followers. While the partisans and opponents of the "Brunonian theory" were warmly discussing their differences of belief and practice, there gradually sprang up, with the advance of the physical sciences, a modern school of therapeutics which has maintained its essential features without startling changes, to the present day. The first and most prominent characteristic of the new school to be mentioned, is

The adoption of scientific methods of research.

Under this new departure, the tendency has been to drop dogmas and hypotheses and to associate medicine more intimately with physical science; to adopt the positive methods of research and to substitute scientific experimentation and objective observation for abstract reasoning and theoretical speculation. A rational basis for treatment has been sought for, by experimental investigations concerning the action of drugs on man and the lower animals and therapeutics has become the practical supplement of the sciences of physiology and pathology. Professor Leyden of Berlin, said recently at the Congress of Physicians at Wiesbaden: "We all, as medical men, know how much the medicine of to-day has to thank Natural Science. We know that she alone has rescued Medicine from the pool of willful and unreasonable speculation, and built it anew on a basis of well-grounded facts."

The cultivation of modern pathology has made many changes imperative in our therapeutics. It has proven the absurdity, inefficiency and harmfulness of many of the inert and nasty compounds that were empirically used by our best doctors only a few decades ago. The remark which Virchow made many years since, that "Therapeutics was the only department of medical science which was tolerant of rubbish", has lost much of its pertinency in later times; for Therapeutics, based on pathology, has entered the ranks of the exact sciences. Much of the rubbish has been brushed away, and the modern physician, with the knowledge of morbid anatomy for his guide, has found many rational and effective methods of treatment, not even dreamed of a half century ago.

Hahnemann, it is said, ridiculed the pottering with morbid specimens as profitless and misleading in the selection of remedies. Others in his day, though less erratic than he, held similar views. The modern physician can but ridicule in turn the gross ignorance and folly that juggles with symptoms and drugs, infinitesimal or otherwise, to the neglect of the knowledge which the microscope has revealed. The unmistakable tendency of the profession to-day is, not to strike at disease blindly, as at a burglar in the dark—not to employ remedies, either potentized or non-potentized, assimilable or alien, simply because they fit into some old and worn-out theory; but with the clear knowledge of morbid processes and degenerative cell-changes before us, to make such timely and intelligent interference as shall help and not hinder nature in her progress towards health.

When Morgagni, the founder of pathological anatomy, and later on, Rokitsansky, the pioneer in the microscopic movement that led to the cellular pathology, began to reveal the secrets which they had found, the immediate result was, naturally, the loss of faith in the power of drugs to remedy tissue degenerations. Nihilism in therapeutics was the fashion of the day. But it must be acknowledged that a more hopeful spirit now pervades the profession, especially in our own country.

The strong practical sense of the busy workers in medicine refuses to place pathological anatomy upon a pedestal, to be worshipped as a pure science, lofty and removed from the needs of clinical medicine. On the other hand the tendency is growing stronger every day, to use it more and more as a practical working-force; to base our therapeutics on a complete knowledge of the anatomical facts which it reveals and to substitute precision for vagueness in the selection of remedies to be used.

While, then, Pathology is pushing steadily to the front with her well-equipped laboratories and army of skilled observers, Therapeutics is keeping up an equal forward pace in her progress as an experimental science.

The next most prominent feature of modern therapeutic progress worthy of special mention, is:

The attempt which is now being made to establish anti-bacterial medication on a scientific basis.

Since Bacteriology made its entry into pathology, many hasty efforts have been made by progressive men to make it a rational basis for therapeutics.

The field is new and the prospect alluring, and it would not be surprising if patient and careful experimental inquiry along this line, should in the future establish a new and important era in clinical medicine. But at present we have only a working hypothesis which has not been proven. It has not materialized, and when closely approached, it is no more stable than a phantom. Researches in this direction have been too hurried and incomplete to be dignified by the name of experimental progress. The attitude of the profession is one of calm suspiciousness rather than eager credulity.

Said Professor Semmola at the Ninth International Medical Congress: "Many absurd attempts have been made or proposed, which would merit ridicule if, unfortunately, their consequences were not so tragic. Good God! I cannot conceive how, in a general disease, already developed, it is possible to kill the microbes, admitting them to be the real cause, without killing the patient."

It has not yet been proven that typhoid fever or cholera can be aborted on the anti-parasitical plan, by the so-called germicides, nor that the tubercle bacilli can be killed in the living subject by poisonous ptomaines, without serious injury to the unfortunate patient.

Yet the profession, while not over-credulous, are alert on this subject, ready to hail with delight any genuine discovery in anti-bacterial therapeutics. Great expectations concerning the future possibilities of medicine have been encouraged no doubt by the wonderful achievements of Listerian surgery. But, unfortunately, the cases are not analogous; for the one consists in keeping the pathogenic germs out of the human organism, while the other proposes to kill them after they have gotten in—a much more difficult and intricate problem to be solved. Some of our most enthusiastic anti-microbic therapeutists have indulged in the extravagant belief or pretension that they have solved this problem already. They

have ignored the necessity of rigid experience and will soon find themselves, perhaps, on the wrong road. But the calmer students of our profession are content to wait with philosophic patience for the time when, by the slow evolution of experimental progress, the ultimate scientific solution shall be reached.

A third notable characteristic of modern therapeutics which presents a striking contrast to the practice of a hundred years ago is:

Simplicity of prescription and a tendency to reduce all medication to a minimum.

The great majority of our brethren are not accustomed to necessarily associate severe disease with heroic medication, nor are we expected now to bring the entire drug shop with us to the sick-room. The patient's confidence is not so greatly inspired as formerly by the exhibition of horrid draughts or bitter decoctions. He is, in general, more willing now to rely on proper hygiene, a correct diagnosis, and a knowledge of how the disease will naturally terminate with simple medication and good care, than upon the frantic efforts of his doctor to knock down with herculean blows the dire dragon of disease. The popular delusion that in all desperate cases something desperate must be done at once—that a kind of exorcism must be practiced by the vigorous beating of the therapeutic "tom-tom"—is giving way to a more enlightened and reasonable view of the true function of the physician. The people are beginning to realize that most diseases, being self-limited, may, with good hygiene and suitable alimentation, terminate in recovery without medication; and physicians have better chances than ever before for studying the natural history of disease.

Even the homeopath, who in his mimic game plays his phantom drugs against the phantom symptoms, like men on a checker-board, is in the best possible position, if he only knew it, to make exhaustive studies of how nature cures disease without artificial aid.

In the present age, more than in any previous one in the history of medicine, there have been developed, systematically used, and brought into prominence, many valuable remedial

measures other than drugs. To this class belong electrotherapeutics, the Swedish movement cure, massage, the rest cure, hydrotherapy, mineral springs, changes of climate, etc. All of these have justly come into varying degrees of popularity and usefulness, and have largely superseded the old custom of piling drug on drug in cases which obstinately refuse to recover.

The great question of the day, however, is not which of these therapeutic systems is the best—not what drugs on the whole come the nearest to being specifics in this or that disease, but preventive medicine. How can we stamp out all contagious disease? How can we throttle such a monster as consumption by preventive means? How can we instruct the masses in those methods which are the best to prevent disease and rob death of his supremacy? These are the burning questions of the hour—questions that the medical profession are bound to solve before another century rolls away.

Meantime, as we approach these great questions in a spirit of hopefulness and enthusiasm, the mystery grows more wonderful and profound among the common people, how that the doctors, whom they are apt to consider as mere tinkers of the human body at so much a head, can seriously set themselves to work to prevent those very ills whose existence affords them a living.

It is pleasant to be able to note that the polypharmic practice of our fathers of crowding a dozen or more nauseous drugs into a single prescription is getting decidedly out of date. For this we have substituted the improved plan of compressing the various alkaloidal principles into gravimetric doses of small size and soluble nature. By this plan, we isolate each therapeutic agent and gain over the old method, in precision of dose, uniformity of strength and ease of administration; while we avoid incompatibility and complexity of effect. This improvement in pharmacy, by which many old, well-tried and invaluable remedies may be used in a more simple and agreeable form without involving any change in therapeutic principle, is happily growing into more general favor every year.

I come now to speak of a practice characteristic of our

times, which should be disparaged as a growing evil rather than encouraged as a mark of progress. I refer to :

The exaggerated valuation and indiscriminate use of NEW THERAPEUTIC AGENTS, to the neglect of the older and better tried remedies.

Although the spirit of investigation has, in all ages of the world, prompted medical men to seek for new remedies to subdue fever, to assuage pain, to promote sleep and to prolong human life ; yet, in spite of the modern conservative tendency already mentioned, never has it inspired them to push forward their efforts in this direction with such pernicious assiduity as at present.

Bewildering to the brain of the average doctor is the phantasmagoric vision of all the strange compounds, polysyllabled in name and complex in structure, which modern organic chemistry has conjured up as if by magic, from the mysterious depths of her crucibles and retorts. The very exuberance of these products is enough to tempt the unwary practitioner into inconsiderate medication. They seem to cry out to him in tantalizing accents, "what are we here for, if not to be prescribed" ?

Strange to say, out of this surfeit of new therapeutic agents, there is a dearth of really valuable drugs. With few exceptions, they

" Are but dust that rises up
And is lightly laid again ".

Mere curiosities of the chemist's laboratory and nothing more. Some are positively dangerous. Among these I am inclined to class nearly all the so-called antipyretics. I believe that the artificial and overwhelming depression of the thermic, respiratory and circulatory nerve-centers produced by these powerful agents is of itself a greater source of danger than the hyperpyrexia for which they are prescribed. Doubtless, however, some of the less objectionable members of this series will continue to be profitably used in a variety of morbid conditions for some time to come. But I venture here to predict that the reign of the antipyretic family will not be so long, nor even so honorable, as that of old "King Lancet", long since deposed.

How can it be possible it may be asked, that these new therapeutic agents can fulfill the extravagant anticipations indulged in by a few concerning them? It is difficult to conceive in what way they can originate the vital forces which are to revivify the exhausted tissues, re-establish the slackened life-currents and energize the over-worked brain and tired nerves! To claim this for them is, as Lawson Tait says, "to parade a lot of inaccurate conclusions in the name of science".

There is a therapeutic practice now much in vogue, yet of questionable propriety, to which I will briefly refer, for the purpose of criticising it. It is the custom—to which our fathers in medicine were *not* addicted—of prescribing ready-made, non-official compounds, labeled—not with the formula, but with printed directions for use, and manufactured solely with reference to pecuniary gain by large wholesale concerns. The earth is flooded with elixirs, syrups, cordials, wines and other alluring pharmaceutical preparations of this character. The environment of our latter-day practitioner is fast thickening with them. His office is overwhelmed with "specimens", with printed recommendations and price-lists. His valuable time is encroached upon by the frequent visits of the voluble agent. He is sometimes, in thoughtless moments, induced to lend himself to the support of this purely mercantile movement, much to the damage of the scientific progress of therapeutics. This practice has little to recommend it from any point of view. It injures the pharmacist by diverting him from his legitimate business and by tempting him to prescribe over the counter. It tends to make a charlatan of the physician and to lower his self-respect. It defrauds the patient, who is entitled to the best skill of the physician in selecting and combining drugs particularly suited to his individual case. The various compounds referred to are not patented, because they are intended to be used through the recommendations of physicians; yet they are extensively advertised by canvassers, by the religious press and by circulars through the mails. In many instances they are elegant in appearance and pleasing to the taste, and are prepared by gentlemen skilled in pharmaceutical chemistry, but hardly entitled to be ranked as eminent

therapeutists. They have no hesitation, however, in carefully instructing the medical profession as to the best methods of treating various diseases by means of their nostrums. This modern speculative craze would soon cease if, by concerted action, medical men would refuse to prescribe any compound whose precise composition is not definitely made known.

I have thus roughly outlined a few of the characteristics of modern medicine. Some of these show certain and unmistakable proofs of scientific progress; others illustrate the fallacies and foibles of the day.

But in reality, the science of therapeutics, however complete and unimpeachable it may become, can never supply any system of rules which shall take the place of the shrewd tact and the calm judgment of the skillful physician. There is no department of medicine that requires of him such deep insight, such logical acuteness, such high powers of observation and prompt intuitive action as that of therapeutical science.

Long may her crowning glory lie, as now, in the noble army of her devotees, who with "one equal temper of heroic hearts", toil daily to assuage the woes of a common humanity with an inspiration akin to genius!

Far into the coming years of the century before us may her bright star shine with deepening light, amid the glittering constellations of the fadeless sciences!

SOMEWHAT ABOUT THE MATERIA MEDICA AND THERAPEUTICS OF A HUNDRED YEARS AGO.

BY RUFUS W. GRISWOLD, M.D., ROCKY HILL.

Mr. President and Gentlemen of the Section :

When I was asked to contribute to the medico-literary part of our centennial celebration, through the Section on Materia Medica, it was kindly suggested that I present something on "The Old and New in Therapeutics," and from that show some contrast between the means and modes of procedure of our predecessors of a century ago and those of us who are of to-day. The suggestion was good, if one had been desirous of writing up a large book: but, on reflection, the subject in its fulness seemed to open out into a field quite too large for any one person to attempt going over it on an occasion like the present: so it seemed better to leave the new land to some younger men, while I went back on to the old and harrowed a little around a field almost, but not quite altogether, deserted, as no longer worth the cultivation of the student in medicine; and my contribution will be, Somewhat about the Materia Medica and Therapeutics of a Hundred Years Ago.

Those of our younger brethren—probably most of them—who have not interested themselves in the medical literature of 1792 and earlier, may think the field chosen a rather narrow one to work in; but it is narrow only by comparison. Believe me, it is broad; so broad that in a brief essay suitable for to-day, one can only go but lightly over it, and rake out a few of the prominent points therein.

The practitioner of 1892, who makes a complete survey of the latest dispensatories and pharmacopeias, with their vast display of compounds and chemical combinations, and notes that the greater part of the mass from which he draws his prescriptions has been introduced within the present century,

and indeed within the last half of it, may wonder how it was that his predecessor of three generations ago succeeded in curing any of his patients. Perhaps he didn't cure them: it may have been that they got well, much as a great many of your patients to-day do, without much regard to the particular drug exhibited, and as they would have done if dosed with some other drug, or had not been dosed at all. Contrast the drugs conspicuously in use a hundred years ago with those conspicuously in use to-day, and note that patients ill with the long array of acute diseases got well in about the same ratio a century ago as now, and therefrom is to be learned a lesson that ought to be of immense value to every practitioner. The relation between the medicine administered and the recovery of the patient is often more one of seeming than of reality. At first thought, if you take a sugar pellet (supposed to be imbued with potential efficacy) when you go to bed at night, and in the morning you feel a deal better, it seems rational to conclude that you are better because of the thing taken; but if you will remember that often you have not felt quite right on retiring and have got up the next morning in agreeable tone, not having taken your sugar pellet nor any other thing, you open up the inquiry, worth attention—How much has the pellet really to do in the betterment of a case? Herein is involved the supposititious efficacy of the incomprehensible infinitesimalism of genuine homeopathic drugging. And herein is also involved the fact that in a great number of cases where the satisfied practitioner, of no matter what school or system, considers that he has made a wonderful cure, there is rather a recovery with very little relation to the drugs he has administered.

In the large majority of instances patients sick with the acute fevers recover; and they recover under the most diverse and dissimilar systems of treatment, and the still more diverse and dissimilar details of medication; while, on the other hand, a percentage of like cases die, no matter under what system treated, nor by what medicinal potencies the forces of dissolution are encountered. The particular line of drugs which in the passing day it may be fashionable to prescribe and which it may be your individual fancy to use, are not quite

indispensable to the recovery of your patients. Illustrating this point out of our experience of the late epidemics of influenza, you will remember that at one time there was so brisk a run on a certain line of drugs in the treatment of those cases that the stock was exhausted; and yet, the victims of that distemper apparently got on just about the same as when the fashionable fads were to be had.

Indulging in the relation of a personal experience: the writer of this treated a medium number of cases of so-called grippe in the winters of 1889-90 and 1891-92, and without a single death, either directly or remotely in the least degree attributable to that peculiar influence; and this without using one dose of any of the particular line of drugs that it was the especial fashion to prescribe. This experience is here noted with intent to emphasize the point, that when the practitioner of the present day compares his resources in drugs with the armamentarium of those who labored in the profession a hundred years ago, and marks the comparative deficiency of that day, he may not be quite so much astonished at the grand results obtained by our great-grandfathers in medical practice. The sovereign potency, the alexipharmacum, is no more at hand than it was one hundred years ago.

This is not said for the sake of speaking anything in disparagement of the new and wonderful things in medicine that the century past has given us, nor to discourage their use and application; but rather to point out the fact that our ancestors, ignorant as to a great number of drugs and combinations now in use, still had many things quite too good to be utterly discarded by the men of this wise generation: and it may be that with a smaller number to reckon on they were less embarrassed as to making a common sense choice of what would do good in the given case than we are to-day. There is a deal more in making a discriminating use of a few things than in having such an over-abundance as will make us uncertain about which is the best of them all.

Now as to some of the therapeutic means and measures in use a hundred years ago, not medicinal in the strict sense, that have largely gone out of service with the average practitioner of to-day. There was the cautery—that capital application in

many cases of spinal disease, used a hundred years ago by some of the bolder men in the ranks, but not often enough, and now but seldom ; there was the moxa, a near relative of the heated iron, and similarly serviceable in sciatic pains, lumbago, and the like, one application of which would average more good than a hundred daubs of iodine ; there was the cupping-glass, after acupuncture at times, and at others dry ; and there was the acupuncture alone—measures and means that often afforded great relief in localized pains of either an inflammatory or neuralgic character ; there was the spanish-fly blister, highly useful and happily still largely in service ; there was the issue, a splendid remedy in many cases gone into a sub-acute or chronic condition ; and there also was the seton, one of the best remedial inventions the profession has ever possessed. More good followed from the application of a seton in the nape of the neck, in many cases of bewildering difficulty about the head, than could have been had from a dray-load of drugs passed through the stomach, and can be now if our brethren would go back to its use ; there was the leech—not the apothecary, but the wriggling worm—which helped to pump the pains from many a pleuritic chest and thus softened the intensity of the congestion. Who prescribes leeches in these days ? Where are the doctors who have begun practice in the last twenty-five years who talk about setons and moxas, and issues, and cauteries, and sacrificators, and cupping-glasses ? I tell you, Mr. President and brethren, that many of our young men in the profession were sadly neglected in some points in their education. Do you ask if they do not have as good success in their treatment of diseases as their great-grandfathers had ? I am not to answer, no ; but it is right to say, they ought to have better. With all the great progress of which we boast, and justly, and with the immense multitude of new remedies introduced in the just passing century, certainly the practitioner of to-day should average up better than the man of ten decades ago ; and perhaps he does ; but he would average up better still, if on proper occasion (and proper occasion comes often) he resorted to the use of some of those remedial agencies that may be almost reckoned as among the lost arts in our profession.

Another therapeutic procedure much in vogue with our forefathers was the glyster—the enema is the newer name. Fortunately for our patients the glyster continues to be in frequent call. It is spoken of mostly to make note of the instrument by which it was put in service. A considerable share of the families of a hundred years ago had as an article of housekeeping, a glyster-pipe; it was as indispensable as the warming-pan. And right here let us pay our tribute to the brass warming-pan that many of our good grandmothers thought they could hardly keep house without. The man who invented the warming-pan was a great benefactor to the human race: he deserves to have erected to his memory a monument carved out of enduring granite, into the form of that blessed old household utensil. The warming-pan was a delightful therapeutical appurtenance. Many were the men, coming home from exposure in the storms of winter, tired out and in just the condition to readily take on a pleuro-pneumonia or an inflammation of the liver, who were helped to override the onset of disease by the grateful heat bestowed into the system from the warming-pan passed by the good wife between the sheets of the bed; and many the worn-out woman also. Supplemented by a hot sling (an article of the *materia medica* prescribed largely a hundred years ago, and occasionally heard of in these days) the warming-pan stayed off the severe cold that, going on, might have ended in death. For it is right here to be remembered that a century back the people of New England, not having come to the comfort of hot-air or steam-heat in their houses, nor having made the acquaintance of stoves, wherewith to warm their dwellings, nearly all, probably ninety-nine in the hundred, slept in cold rooms: and if you take into account the fact that when one is right at the point where a small matter is to determine whether his system is to plunge into an acute inflammation in one direction or slip past it in the other, the positive difference there is between a cold bed and one nicely warmed may be, and often has been, the difference that has decided the question of life or death.

Returning to the glyster—the glyster-bag was made from the pig's bladder, blown up and then cured into pliancy. Into

the nozzle of the bladder was fastened a large goose-quill or a wooden pipe; sometimes a length of the pith elder, which boys make pop-guns of, for the nozzle. This ante-type of the fire-engine was a useful article. The favorite charge was urine and molasses—say one part molasses to three of the other article. Nice discrimination was exercised as to who contributed the larger equivalent of the mixture; the good health of the party being a prime consideration, and another point of preference favoring a young and unmarried member of the family. The mixture first being brought to the right temperature, was poured into the bladder; the open end was tied tightly about the nozzle, and the contents injected by pressure upon the bag.

Another therapeutic measure much in favor with the profession a hundred years back, and often prescribed for patients with incipient lung disease, as also for that list of troubles which of late years has been dubbed with the new name of neurasthenia, was horseback riding. The sort of patients we now recommend to “travel”—that is to ride over railroads in luxurious seats, or to go to Europe on a fast steamer for the benefit of the health, were ordered to the saddle for horseback exercise in the pure air of our Connecticut hills. Consumptives got quite as much good out of this as the similar class of to-day get from their swift ocean voyages and their trips to Florida, etc.; and the long list of neurasthenics a deal more; and would now if the treatment had not gone out of fashion.

The therapeutic measure of poulticing was largely in use by our grandfathers. This is spoken of for the sake of mentioning some of the ready-at-hand articles then in use—hot boiled potatoes, mashed; turnips, onions, rye, bran, hops, cow-dung. By the use of these and other like articles to be had readily, the good wife, by direction of the doctor, gave her husband and children beneficent sweats, and so aborted, and in a better way, more fevers, proportionately, than are now arrested by the modern method of putting certain drugs into the stomach.

Other therapeutic means the doctor of 1792 and his predecessors availed themselves of; but our limited space obliges us to leave them unnoticed, except the one formest of all—bleeding. This valuable and potent operation, signally effica-

cious in relieving the intensity of congestions and rubbing off the sharp edge of various inflammatory diseases, now almost retired out of service, was in often use. Our grandfathers and great-grandfathers, and great-great-grandfathers bled often, and early if they got the chance. Our fathers bled some; we, the children, have bled very little, and the grandchildren hardly know how. A large number of medical graduates of the past forty years, coming out of college quite competent perhaps to perform properly the major amputations, do not know how properly to do phlebotomy. That this is so, is lamentable. The lancet, in the hands of our predecessors, saved more lives than any other potency. It is a great misfortune that its use has been so almost entirely abandoned. That the practitioners of a century ago bled too indiscriminately is doubtless true; that we have made a mistake in laying up the lancet to rust in its sheath, is as true; but it is a matter for some congratulation that in the last decade there begin to be evidences of a disposition on the part of the soundest men in the profession, to become, in a reasonable degree, the disciples of Sangrado.

Let us see a little what the doctors in 1792 thought about bleeding. One of the most eminent men in the profession in America, in the last part of the past century and the first of this, was Benjamin Rush. He edited, and there was published in Philadelphia, *The Observations of Sir John Pringle on the Diseases of the British Army*, some fifty years before. Dr. Rush seems to have got a deal of his inspiration from Pringle; and American physicians about all followed the same paths as the distinguished Philadelphia professor. Says Pringle: "Bleeding is the principal remedy in the cure of inflammatory disorders; the delaying it too long, or not repeating it often enough in the beginning of bad colds, is the chief cause of their ending in dangerous inflammatory fevers, in rheumatisms, or consumptions. * * * In general young practitioners are too sparing in letting blood, and delay it too long. Soldiers will seldom complain of a cough, or pains with inflammatory symptoms, wherein immediate bleeding is not proper;" and the surgeon "is to judge of the necessity of repeating the evacuation, which, in case of a stitch or difficult

breathing, is never to be omitted in some quantity, even in the advanced stage of the fever. I have generally ordered from twelve to sixteen ounces to be let at the first or second bleeding, but less at all the rest. * * * When large quantities are necessary it is best to bleed the patient lying, in order to prevent his fainting before enough be drawn." Again, "so much depends on early and repeated bleedings in the beginnings of these fevers". "An original inflammation of the brain requires immediate, large and repeated bleedings; and the relief is thought to be more certain if the blood be taken from the jugular." Much relief is found "from applying three or four leeches to each temple after bleeding in the arm". In inflammation of the eyes—"if any degree of fever be joined, or the inflammation be considerable, this evacuation ought not to be omitted". Of the inflammatory angina, "its tendency * , * * requires speedy and large bleedings, purging and blistering". In pleurisy and pleuro-pneumonia "repeated bleedings" are spoken of; in inflammation of the liver "plentiful bleeding". In illeus, "if after the first bleeding the patient was not sensibly better, the vein was opened the second time". In rheumatisms, twice or thrice bleeding is mentioned; if there were "acute pains and swelling of the joints, repeated and almost daily bleedings". "In old and stubborn coughs, or in the first stage of a consumption, I have trusted to small but repeated bleedings, to setons, and to a low and cooling diet." And so on; and, in short, Pringle speaks of bleeding in almost all the acute diseases; and he quotes the illustrious Boerhaave, and Sydenham, and Ballonius and lots of others. Rush followed Pringle, and in following him followed his compeers and predecessors; and the same did nearly all the American practitioners of one hundred years ago, and for about fifty years later.

Wilson's Treatise on Febrile Diseases, republished in Hartford by O. D. Cooke in 1809, and which in the English editions of twenty years before had been a text-book of repute with those of the men here who had their imported works, said "blood-letting was necessary in remitting fevers, whenever the countenance is flushed, the headache considerable, or the delirium obstinate, with a full and hard pulse"; but he puts

in many cautions. In synocha "it is not surprising that blood-letting has been found the most effective remedy". Wilson quotes Cullen as saying, in the treatment of erysipela-tous fever, "the evacuations of blood-letting and purging are to be employed more or less according to the urgency of the symptoms": "The remedy which principally demands atten-tion in measles is blood-letting." In pneumonia "the first remedy employed is general blood-letting, which, if the symp-toms are urgent, should be pushed far enough either to relieve them while the blood flows or occasion a tendency to syncope". In gastritis "blood-letting is the remedy on which we depend; it is sometimes employed four or five times a day for several days together; the less remission the symptoms suffer after the first blood-letting, the sooner and to the greater extent it must be repeated". In enteritis "the observations made respecting the extent and repetition of blood-letting in speak-ing of gastritis, are in every respect applicable here". In acute hepatitis "when the inflammatory symptoms are consid-erable, blood-letting is necessary".

William Hay, Jr., in his *Treatise on Puerperal Fever*, Lon-don, 1809, speaks of bleeding in that disease, and quotes Gordon: "The method which I found most successful was by copious bleeding soon after the attack. But this did not answer the end unless it was performed early and in large quantity. When I took away only ten or twelve ounces of blood from my patient she always died; but when I had the courage to take away twenty to twenty-four ounces of blood at one bleeding in the beginning of the disease, the patient never failed to recover."

What is thus given to show forth the use made of this great therapeutic measure by the physicians of one hundred years ago, abroad and in our own country and state as well, could be added to through the pages of volumes, with the backing of a list of names as long as the catalogue of our society for the century of its existence, of men of eminence in the profession, celebrated, illustrious, profound in learning, acute in observa-tion, prudent in practice, accurate in deductions after taking careful note of the relation of effect to cause, and watchful of results from measures employed; men who based their theories

upon accumulated facts with not less of rational basis than their successors of the present day: and yet we, by our abandonment of this great potentiality for relief and cure, hale into the medical chancery of the present generation the conclusions of the venerable fathers of the profession, and impeach their sagacity and their wisdom. It is fortunate for our reputation in the line of common sense in practice that we cannot also be indicted and condemned for as broad a departure from the line of rational reason in an opposite direction as that made by our fathers in their, perhaps too often, use of the therapeutic measure of phlebotomy.

And now somewhat as to the materia medica about the time our society was begotten. It is to be remembered that one hundred years ago drug shops properly were not numerous in the commonwealth. Compared with the present time, in ratio to the population, they were scarce. About all the practitioners of the time kept, compounded, put up and dispensed their own medicines. In endeavoring to get at the articles used, we are first to consider that under the system of education then almost exclusively in vogue, the medical man had gathered less from books than from oral teaching. Tradition, precept, and example, had given him more in the way of instruction than the printed page. Not much original matter in medical literature had gone into type in America, and but a very moderate amount had been re-printed from British and German writers. As to most of the men in practice, their libraries were but small. The way had been mostly that the student rode and saw some practice with his teacher, and from him absorbed the greater part of what he had to start with by himself. In the radical and entire change that has taken place in the methods of instruction since the latter part of the last century, the traditional information as to drugs and their virtues and uses has become lost, and as our grandfathers handled many indigenous vegetable remedies not treated of in the pharmacopeias of the mother country, it is not easy for us to find out about all the things in repute with them. But we know this: Their drugs were largely botanical, and were used in the crude state or in the form of decoctions, powders and tinctures. The difference between then and now

may be illustrated by saying that where the present patient swallows a few grains of quinine in coated pills, the earlier man drank a quart of Jesuits-bark tea. The study of botany was a part of the study of medicine; now we average to know as little of botany as of the evolution of worlds.

The Connecticut doctor of one hundred years ago included among his remedies of indigenous or acclimatized articles, yellow dock, sarsaparilla, wintergreen, birch bark, elecampane, comfrey, sassafras, plantain, white wood, dandelion, snakeroot, hardhack, horse radish, peppermint, spearmint, red peppers, Indian tobacco, wormwood, tansy—the last two frequently soaked in Jamaica rum—yarrow, star grass, marshmallow, Indian hemp, wild ginger, mullin, pinkroot, night shade, barberry, sweet flag, catnip, wormseed, gold thread, dogwood, foxglove, skunk cabbage, bitter sweet, slippery elm, boneset or thoroughwort, blue gentian, crane's-bill, pennyroyal, frostwort, henbane, blue flag, butternut bark, juniper berries, burdock, wild cherry bark, flaxseed, pumpkin seeds, parsley root, May apple, black alder, elderberries, white oak bark, sumach berries, rosemary, blackberry root, willow bark, sage, bloodroot, scullcap, seneca, mustard, golden rod, queen's root, stramonium seeds, uva ursi, valerian, hellebore, prickly ash, touchwood, agrimony, life everlasting, spice wood, spider web, sweet fern, Mayflower, horse tail or scouring rash, indigo weed, mandrake, marjoram, colts foot, mistletoe and Peruvian bark.

Also he used gum arabic, lemons, sulphur, aloes, alum, harts-horn, anise, chamomile, asafetida, orange peel, camphor, canella, Spanish flies, cardamon, cloves, senna, glauber and epsom salts, catechu, meadow saffron, hemlock, chalk, licorice, gamboge, gentian, hellebore, ipecac, antimony, corrosive sublimate,—for the dethronement of syphilis—jalap, manna, mezereon, cowhage, turpentine, myrrh, castor oil, croton oil, ginseng, poppy seeds and leaves, Burgundy pitch, sulphate of copper, sulphate of zinc, sugar of lead, cream of tartar, quassia, rhubarb, soda, savin, squill, borax, gum ammoniac, guaiacum, storax, olibanum, garlic—which, “applied to the wrist cured agues, to the bend of the arm, toothache, and to the navel of children, killed worms”; wake-robin, used to promote sweat-

ing; camomile, praised for women's after-pains and dry belly-ache; cubebs, used against vertigo and to help the memory and prevent mental imbecility; quicksilver, for a mechanical purge; China root; vinegar, which doctors of eminence extolled highly, and used with salt as an excellent application in hernia; saltpetre, that capital febrifuge and best of antipyretic gargles. Also, he had whiskey that was Irish, and brandy that was French; rum from Jamaica, from St. Croix and from Boston; gins that were of Holland and gins from Connecticut; rye; and cider brandy, distilled by the deacon from apples grown in his neighborhood: the which latter articles he prescribed often and freely; nor did he hesitate to sample his own prescriptions on proper occasions, coming close together. Wines, too, were at his service—port, sherry, madeira, champagne and amintallado—not doctored, but from the vineyards of Italy and France. Blue pills and calomel were among his drugs; so also James' powder—the exact composition of which was not known in this country; Dover's powder, that splendid example of the survival of the fittest; and last and greatest of all, the inspissated juice of the poppy, the king of drugs, the Jove of medicine, which has obtunded more pain and soothed more human anguish than all the other articles in the catalogue of the apothecary.

Not all the doctors handled all the medicines we have named. Each had his favorites, simple or compounded, as now. Many of them had their favorite physic pill or other dose, the composition being sometimes a secret. The unwritten code, much like the written one of to-day, was in service largely, but not always lived up to. Men of otherwise good repute had their especial vaunted remedies, of which Hull's physic was an example, in use in Fairfield County by a family of that name. Dr. Aaron Hosford, who practiced medicine in Rocky Hill from 1774 to his death in 1804, used a special pill for cases of colic, the composition of which was kept a secret by some of his descendants until in the last decade. Other practitioners had like secret remedies.

From what we have noted, it will be observed that the materia medica of our grandfathers was widely unlike, taken as a whole, that of to-day. The practitioner of one hundred

years ago, if he could be transported into a modern drug-store, would be like a traveler in a strange land, through which he would find it difficult to get on, unless directed by a guide, posted as to the highways and byeways of the new country.

Doubtless, Mr. President, we shall hear, at some point in our centennial celebration, of the wonderful new things in the *materia medica*, brought forward in the last hundred years. And indeed, there has been great progress, about which we are justly entitled to boast, and from which we may choose to argue of our own smartness. A moderate degree of self-conceit over what has been done in the closing century is pardonable, and some display of it on this extra occasion is not out of keeping. But do not believe there had been no progress before. You who are curious in the direction of drugs used by your long-ago predecessors in the healing art, can, by consulting old authors, see that there has been not much greater comparative progress in the passing century than in the one that preceded. You may smile over some of the remedies used by your great-grandfather; he also had his smile over some of the drugs in use by his great-grandfather.

Consult Pringle's *Diseases of the Army* (Pringle began the study of medicine in 1727); Boerhaave's *Aphorisms and Lectures on Physic*, first given to the world about 1708; Brooke's *Introduction to Physic and Surgery*, second edition, 1763, originally published, I judge, one hundred years earlier; *The Method of Physic*, by Philip Barrough, 1596; Joanne Schroder's *Pharmacopeia*, 1705; the works of Richard Mead, written about 1704; *The Marrow of Physic and the Marrow of Chirurgery*, by James Cooke, 1676; the works of Nicholas Culpeper, in many books, all published previous to 1655; and other works of the sixteenth, seventeenth and early part of the eighteenth centuries, and compare the *materia medica* parts of them with that of works of the early years of the nineteenth, and you will find a wonderful difference. The simples and the concoctions of two hundred years ago, differed as much from those of one hundred years ago, as the latter differ from those of to-day; and a review of them will assure us that the hell-broth of the witches, described by the great dramatist, was not altogether

an invention of his brain, since equivalents of the ingredients in the concoction were used as medicines for the ailments of mankind in his generation—as the matrix of a hare, boar's stones, the yard of a stag, sow's womb, deer's privities, virgin's water, cow's udder, dried frogs, vipers' bodies, puppy-dog boiled in oil of worms, partridge feathers, goats's hoofs, gall of an ox, asses' feet, navel strings, secundines, dog's lice, and many other equally eligible and acceptable articles. Verily, we have progressed. Still, it is within the memory of living people under sixty, that urine and molasses was a common prescription for spasmodic croup in many a Connecticut family; and yet, taking the mass of things in use, there had been great advance in the two hundred years prior to 1792.

An example or two found in Culpeper, published first about 1640, will show that the eminent doctors of that day were not less fertile in their prescriptions than was the immortal Shakespeare in his invention: "Take conserve of rosemary, six ounces; dog-stones, candied, two ounces; orobus, skink's-reins, boar's stones, sow's womb, deer's privities, ivory, turnip seed, nettle seed, rocket, clary, wild mustard, each two drams; pine nuts, sweet almonds, each half an ounce; diamoschusdulcis, a dram; oil of nutmeg by expression, two drams; with syrup of bettony, make an electuary"; or, less repulsive: "Take eight pints of water, with starch, barley meal and rice; dried roses, a handful; juice of yarrow, plantain, each half a pint; comfrey roots, in all three ounces; horse tail, bloodwort, each half a handful; pears, quinces, pomegranate flowers and sanders, each half an ounce; mastich, an ounce; distil them, and give two ounces with half an ounce of syrup of roses or purslane": after reading which we may take a realizing sense of the following observation by the eminent Dr. Richard Mead, (who died in 1754) at the end of his chapter on Demoniacs: "I have long known by experience that the celebrated mistletoe of the oak is an useless weed, * * * and is entirely indebted to the religion of the Druids for its great character. Wherefore it is to be ranked with those other frivolous things which superstition has introduced into physic, unless a person can work himself up into a belief that the golden sickle with which it was cut down, the priest's

snow-white garment, the sacrifice of white bulls, and other such trifling circumstances, are conducive towards a cure ; ” and it will be pertinent to ask: To how many other of the remedies highly extolled by the old practitioners might not this judgment as truly apply?—To how many of the medicaments in use at the period of our nativity might it not apply as well?—To how many of the thousand and one drugs in repute with their living successors will it not apply, also?

But though Dr. Mead did not believe in the virtues of mistletoe, he did in the power of vipers’ flesh ; for in his works published in 1762 in London, after his death, in a discourse on poisons, he says: “ I shall conclude with some hints concerning the use of the viper in physic ; because authors are very large in enumerating its virtues against many, and some of them very obstinate, distempers. One of the first whom we find in antiquity to have made use of the flesh of this creature for medicinal purposes was, I think, Antonio Musa, the famous physician to Octavius Cæsar, of whom Pliny tells us that ‘when he met with incurable ulcers he ordered the eating of vipers, and by this means they were quickly healed’. It is not improbable that he might have learned this from the great Greek physician, Craterus, mentioned often by Cicero in his epistles to Atticus ; who, as Porphyry relates, ‘very happily cured a miserable slave, whose skin in a strange manner fell off from his bones, by advising him to feed upon vipers, dressed after the manner of fish’. In Galen’s time the profitable qualities of the viper were very commonly known. He says, that those who are afflicted with the elephantiasis are wonderfully relieved by eating vipers dressed like eels, and relates very remarkable stories of cures of this disease performed by the viper wine. Aretæus, who probably lived about the same time with Galen, and of all the ancients has most accurately described the elephantiasis, commends, as Craterus did, the eating of vipers in the same disease. * * * Lopes, in his relation of the kingdom of Congo, takes notice how greedily the negroes eat adders, roasting them, and esteeming them as the most delicious feast ; so Dampier also informs us that ‘the natives of Tonquin treat their friends with arrack, in which snakes and scorpions have

been infused, accounting this not only a great cordial but also an antidote against the leprosy and all other sorts of poison'.

* * * I have been told by a learned physician, who resided many years at Bengal, that it is a constant practice there to order in diet the cobra de capello to persons wasted by long distempers. * * * The physicians in Italy and France very commonly prescribe the broth and jelly of vipers' flesh for much the same uses. * * * Whoever reflects upon what has been said on this head, will very readily acknowledge that our physicians deal too cautiously with a remedy which may be applied to very good purposes, when they prescribe a very few grains of the powder of dried vipers, or make up a small quantity of their flesh into troches. * * * The patient ought to eat frequently of viper jelly or broth; or rather, as the ancient manner was, to boil vipers and eat them like fish, * * * or make use of wine in which dried vipers have been digested six or seven days in a gentle heat, from which I have seen very good effects in obstinate lepras." (Here Dr. Mead refers to the London Pharmacopeia for directions.)

Under the general head of vipers to be used as medicine, after the manner indicated, the learned doctor includes the American rattlesnake. Whether or not our Connecticut predecessors of 1792 made use of vipers as medicine, I have not noticed, but as so far as book-learning was concerned, they drew directly or indirectly from English writers, like the famous Dr. Mead, it not unreasonable to suppose that some of them included among their potentials a jar of powdered vipers, the which, made into broth and well seasoned with savory condiments, was doubtless just as good a nourishment as ox-beef prepared in like manner. And here I may note, as among articles which some of the old doctors used within my remembrance, the skins of the rattlesnake and the common blacksnake of this section: many a specimen of the latter have I helped strip of his hide, the which, after being first dried for preservation till called for, was then cut up in sections for use and soaked out in warm water for application to obstinate sores and ill-conditioned ulcers,—a capital prescription.

Brethren of the profession, look not back at the materia medica of your great-grandfather with a glance of ridicule: if

you incline to wonder that his patients got well, seeing with what drugs they were dosed, consider that he might as well have wondered that the sick of 1692 also some times recovered, despite what they were plied with and in lack of what was not : consider further that your great-grandson, who may be carrying medicinal comfort to his patients in 1992, over the roads you now travel, will likely be inclined to wonder, when he pokes over the articles of your old armory, that the majority of your patients did not prematurely die. For there will be large progress in the coming century : notwithstanding which, the sickle of the Great Reaper will be not less sharp, nor his harvest less abundant.

RECENT ADVANCES IN THE LEGAL AND EDUCATIONAL STATUS OF PHARMACY.

BY J. H. GRANNIS, M.D., SAYBROOK.

The last two decades nearly cover the period of time during which pharmacy has made its most rapid strides, not only in manipulative processes, but in its legal and educational status.

Previous to 1870, very limited, if any, organized effort had been successful in establishing a legal or educational standard of requirements for the pharmacist. Since that time Pharmacy Schools, State Pharmaceutical Associations, State Pharmacy laws and Pharmacy Boards have multiplied, till now there are thirty-seven Colleges of Pharmacy in the United States, each employing from three to nine professors or instructors, (an average of five), from which there have issued about ten thousand graduates. Some of these schools have been in operation much longer than the period above mentioned, notably the "Philadelphia" and the "New York City" Colleges of Pharmacy, whose lists now number respectively about thirty-five hundred and fifteen hundred names.

The American Pharmaceutical Association was organized in 1852, but not until 1870 did the states commence to form associations, which, however, have so rapidly increased, that at present there are forty-one State Pharmaceutical Associations, each meeting annually and entitled to a delegation to the American Pharmaceutical Association.

Pharmacy legislation seems to have followed closely on the heels of the formations of state associations and doubtless has been the direct result, in most instances, of the agitation of the subject by state organizations.

Forty-two of the states now have enacted pharmacy laws for the regulation of the sale of poisons and alcoholic liquors, registration and legal qualifications of pharmacists, etc.

In their diversity these laws markedly exemplify the autonomy of the states. Boards of Pharmacy have been established in thirty-eight states whose duties are, in a general way, to enforce the law, examine candidates for license, investigate abuses and infractions of the pharmacy laws, etc.

In 1876 the Connecticut members of the American Pharmaceutical Association met in New Haven and formed the Connecticut Pharmaceutical Association. At its first annual meeting, which was held in Hartford in 1877, a committee was appointed to draft a pharmacy law and petition the Legislature for its passage. On the fourteenth of April, 1881, such law was enacted, to go into effect the following June. Such changes and additions as were found necessary were made during the legislative sessions of 1882, 1886 and 1887.

Simultaneously with the enactment of the law, a Board of Pharmacy was formed, to consist of two pharmacists and one physician.

In accordance with the terms of the law during the first two years of its existence, the duties of the board consisted mainly in ascertaining the qualifications of, and issuing licenses to, such pharmacists as had had three or more years' experience in pharmacy and were recommended by some reputable pharmacist, or they should be the possessors of a diploma issued by a reputable College of Pharmacy, or should have a license issued by some other recognized Board of Pharmacy.

The first meeting of the board for the examination of candidates was held on June 5, 1883, since which time five hundred and eighty-one examinations have been made. Two hundred and seventy-two candidates have passed a satisfactory examination and received licenses, and in three hundred and nine instances the board has refused to grant a license. It is to be observed, that the above figures do not represent the number of candidates examined, as in many instances candidates appear before the board more than once.

These examinations are designed to ascertain the applicant's knowledge of pharmaceutical processes, percentage, strength of preparations, dosage, chemical nomenclature and botany. Candidates are required to answer sixty per cent. of the questions correctly, in order to obtain a license.

Very few instances of abuses or infractions of the law have been reported to the board, and such as have been reported have been corrected through warnings, correspondence and explanations of the law as understood by the board, and without recourse to legal prosecution.

Thus I have endeavored to sketch in a cursory manner, the recent advances in the legal and educational status of pharmacy, more specifically in our own state.

In correspondence, a prominent pharmacist said to me within a few days: "The pharmacy act has been instrumental in elevating pharmacy, and the pharmacist of to-day is, by the study necessary to obtain the coveted license from the board, much better fitted for his duties than previous to the passage of the law. But the tendency of the day is toward illegitimate pharmacy, by having thrust upon us ready-made preparations, put upon the market and introduced to the notice of physicians, so that the business of compounding is fast becoming a lost art, and unless some step is taken to change this condition, it will soon reduce itself to pouring from one bottle to another A. and B. Elixir, syrup, emulsion, etc."

These statements, we believe, voice the sentiments not only of the Connecticut Pharmaceutical Association, but of both the national and other state organizations.

Have not we, as physicians, a duty to perform toward the dispensers of medicine, while they, as a body, are making such great efforts to advance their legal and educational qualifications?



THE ALCOHOLIC QUESTION A HUNDRED YEARS AGO AND TO-DAY.

BY T. D. CROTHERS, M.D., HARTFORD.

The physicians of a century ago derived most of their knowledge of wine and spirits from classical literature. Wine was given in the last stages of fever and asthenic states, and hot rum in ague and chills, but these were considered household remedies and did not attain scientific dignity as remedies.

Rum, brandy and cider were the common drinks and intoxication was infrequent, except among the lower classes. The so-called mortal sin of alcoholic excess was feebly condemned and physicians were sometimes called to treat such cases, but generally with fatal results.

Alcoholic states were not in general recognized, unless stupor, delirium or pauperism followed. The Brunonian theory of disease was never very popular, hence the use of spirits as a medicine did not become general.

The alarmists of those days urged the moral side of the alcoholic question as the work of a personal devil recruiting for his service, and drunkenness associated with crime was considered an aggravation of the offense.

Both clergymen and rulers deplored this evil in strong terms, as the records of many old papers show. Beyond a few sermons against drunkenness and some tracts, there is little to record of this question before the beginning of this century.

In a letter written by Dr. Andrews of Meriden, in 1791, to a brother physician of New York, he remarks, the medical men of Connecticut, as a body, are very sober and temperate. He does not know of but two physicians who use brandy to their hurt. He attributes this to the fear of God in their hearts, then moralizes on the value of wine in old age.

In 1826 Dr. Jewett appeared as the first medical temperance agitator in this state and New England, and continued for over forty years lecturing, writing and advocating total abstinence. Some of the clerical physicians were total abstainers and recognized the danger of spirits as a beverage and wrote and worked to promote temperance in their localities. Others were indifferent and considered the subject foreign to science and medicine.

As subsequent events proved, a dim conception of the danger of alcohol as a beverage and medicine began to dawn on the minds of the thinking physicians of those early days.

Hence when Dr. Todd in 1829 offered a resolution to inquire into this subject, there was a general endorsement and feeling of welcome.

It was also evident that the intention and knowledge of the medical men of the day was far in advance of the common sentiment, but as usual they lacked boldness to define their convictions when opposed by public sentiment.

The great event of the century, which will probably be remembered longer than any other act of the State Medical Society, is the one we propose to give in some detail.

In May, 1830, sixty-two years ago, a committee of the State Medical Society, appointed the year before, made a report to the Society, then in session in this city, which undoubtedly is one of the most remarkable in the annals of medicine; remarkable for its clear, scientific conception of the topic that is hardly yet past the dawn of full recognition.

This report attracted but little attention at the time, and was greeted with the usual sneers and ignorant opposition so common to every real advance of science.

The story of the origin of the report begins in the execution of two inebriate murderers, in which a strong feeling of revenge pervaded the community, demanding their death. Dr. Eli Todd, the superintendent of the Retreat for the Insane at Hartford, resented this, and declared these men insane and diseased. Such statements were opposed with bitter contempt, which only roused the author to a more careful examination of the subject, and a re-statement in which he declared that inebriety was not only a disease, but that the State should provide

special hospitals for its control and treatment. In those days theologians led and directed all progress in public sentiment in sanitary and social matters, while medicine followed along behind in a confusing struggle to work in harmony with the prevailing theories. Dr. Todd was a thoroughly independent man, who had no respect for theories or public sentiment that was wrong, and hence carried his convictions to the State Medical Society. A committee was appointed to report on this subject and upon the expediency of an asylum for inebriates.

The next year, 1830, this committee, consisting of Dr. Eli Todd as chairman, Doctors Mason F. Cogswell, Samuel B. Woodward, George Sumner and Horatio Gridley, made the following report, which we give in part:

“The propriety of making any provision for inebriates might well be questioned, if intemperance was not a misfortune, if the lover of strong drink who scatters desolation over the fair prospects of his household, was not himself a victim of wretchedness from which he would gladly escape. The members of this society need not be told that intemperance is commonly associated with disease of body and mind, and although the disease is aggravated, and probably occasioned by vicious habits, those very habits are adhered to, because they are thought to yield momentary relief from suffering. We believe there are few drunkards who would not in their hours of sobriety wish to be reclaimed; few who would not wish to regain that rank in society from which by their vicious conduct they have been so deeply degraded. But however ardently they may desire their own reformation, they have not the moral courage and the needful resolution to effect it. Their disease excites no sympathy, their sufferings call forth no pity from others, their consciences and their friends reproach them, their good resolutions fail them, and their promises of reformation are made only to be broken.

“Under these circumstances it becomes us to inquire whether the evil is not of so much importance as to demand the corrective aid of government and the untiring efforts of benevolent individuals to effect its removal.

“Civilians assure us that ignorance and vice are the only formidable enemies of our Republic. Observation assures us

that intemperance is the great avenue to these sources of national calamity; that the child is rarely brought up in ignorance, unless one or the other of its parents is intemperate, and that few persons are convicted of grosser crimes until they become intemperate themselves.

"It unfortunately happens from the facility with which ardent spirits may be procured and the latitude which everyone assumes for the government of his own actions, that intemperance has become not only a source of national danger but emphatically a national vice. It is moreover an evil, whose contaminating influence extends from house to house and from one individual to another, till it has corrupted the whole population of the neighborhood, and ruined those who should have been its ornaments.

"It often happens, too, that inebriates are possessed of uncommon vivacity and fascinating address, which renders them interesting, and, in proportion as they are interesting, dangerous associates.

"One individual of this character has been often known to seduce an extensive circle of unsuspecting companions into habits of intemperance, from which it is difficult, if not impossible, to reclaim them. We profess not to be able to estimate the extent of the evil which such an individual may entail upon his country, our object being to determine how such calamities may be avoided. By the existing laws of the State if a person is guilty of intemperance he may be sent to a workhouse for punishment. There he is looked upon as a criminal, his associates are criminal, some of them guilty of heinous offenses, and instead of being reclaimed he is usually made worse, being associated with companions who have lost all self-respect and all regard for the opinion of others. He is, by their companionship, prepared for the commission of gross crime and consequently returns a more dangerous member of the community.

"This is no picture of imaginary evil, but a statement which every day's observation proves to be literally true. Whenever an attempt has been made to effect a reformation of an intemperate person through the agency of legal penalties, he has become more degraded and more desperate.

“In consequence of these difficulties few efforts are made to reform the drunkard, and of these but a very small proportion are crowned with success.

“The institution of temperance societies, which have produced the most desirable change in the opinions and practice of others, has not served, and indeed was not designed to brighten, the faint prospect of his restoration. Neglected by those societies and shunned by those who are most ardently engaged in promoting the cause of temperance, he chooses for his companions, those who have already entered upon the same unfortunate career with himself, and pledges a faithful adherence to them and their practices. There never was a time, when greater or more successful efforts were made to prevent the extension of the evil, and we are compelled to believe there never was so faint a prospect of the drunkard forsaking his companions or his cups, or when efforts directed for his preservation were more imperiously demanded.

“If anyone is disposed to question the correctness of these observations, we would request him to examine the records of our criminal courts, and he will find that the expenditure for public prosecutions have been greatly augmented and that convictions for crime of almost every grade, have become more numerous than at any former period.

“The question then recurs, shall inebriates be permitted to pursue their unhappy career, without an effort to restrain and correct them, or shall they be subjected to such penal discipline as has been proved positively injurious to its subject, and ultimately detrimental to society? Whenever these inquiries have been directed to intelligent, public-spirited and benevolent men an unqualified negative answer has been returned. The existing practice of our state is alike impolitic and cruel, and we proceed to point out a more judicious course, confidently believing it entitled to individual and legislative patronage.

“Before attempting to eradicate any disease, we should endeavor to investigate its character, to inquire into its nature and tendency and ascertain as far as practicable the impediments which exist to its removal.

“This course we shall attempt to follow on the present occa-

sion. The use of intoxicating liquor is at first resorted, to for the temporary but pleasurable excitation which it produces. This excitement is soon followed by feelings of lassitude and dejection, which are sometimes sufficiently distressing to deter the subject of them from a second exposure to their influence. If not, the excitement is again sought for—the consequent lassitude and dejection are again experienced and the practice is reiterated, till at length ardent spirits are considered the only refuge from the irksome feelings which they have created. In this manner the practice of intemperance is usually commenced and it is continued but a short time, before the energies of the constitution are impaired and the system becomes diseased. Under these circumstances our efforts to reclaim the inebriate will be of doubtful utility; we may urge upon him the most powerful arguments in favor of abstinence, and the most earnest dissuaves from intemperance, but our arguments will be in vain.

“We may appeal to past experience, to present wretchedness and to future degradation, but our appeal will not reach the conscience, nor check the wayward career of him for whom it was intended.

“Nor does the influence of those excellent societies, which have been established for the purpose of preserving what may well be termed the *ark of our country's safety*—the temperate habits of the rising generation, extend to the dwelling of him who is already intemperate.

“The reformation of such a person cannot be expected, unless he is restrained from the use of intoxicating liquors till his health is restored, his morals are improved and his principles so established as to induce him ever afterwards to reject this evil.

“From these considerations, it appears that no measure calculated to check the career of the intemperate will be efficient till we have an *Institution* furnished with whatever is necessary for their maintenance and employment;

“Where they shall be subjected to salutary discipline and needful restraint;

“Where they shall have no access to intoxicating liquors;

“Where they shall be constantly and usefully employed;

“Where they shall not be contaminated by evil associates and where they shall have no opportunity of exerting an unfavorable influence upon others ;

“Where they shall receive whatever medical aid is necessary to restore their debilitated constitutions, to relieve the sufferings occasioned by past habits of intemperance ; * * *

“Where, in short, by an enlightened system of physical and moral treatment, they may be reformed and restored, welcome guests of their families and useful members of society.

“In estimating the benefits that would result from such an establishment, we ought candidly to examine the evils which it is intended to correct and to compare the expense which must be incurred with the advantages which will result from its successful operation. Intemperance is the great avenue to pauperism and crime.

“The State of Connecticut annually pays twenty thousand dollars, and the several towns in the State unquestionably pay two thousand more, for the prosecution of offenders whose crime may be traced to intemperance.

“The State also pays from five to ten thousand dollars a year for the support of paupers and the several towns pay not less than thirty thousand dollars for a similar object.

“The amount, paid for the maintenance of insane persons in the State, cannot be less than twenty thousand dollars annually, one third of which, according to official documents which have been published in New York and Philadelphia, is occasioned by the use of intoxicating liquors.

“Our citizens are, therefore, annually required to pay seventy thousand dollars for the relief of those misfortunes and the suppression of those crimes which are caused by intemperance. No one who has carefully watched the progress of the inebriate from respectability to dishonor, to pauperism and crime, can for a moment doubt but it would be essentially diminished by the contemplated institution.

“The amount annually paid for ardent spirits, the time devoted to revelry, and the languor and idleness which follow in the train of dissipation, constitute an important item of expense which we leave for others to calculate.

“By this convention no such estimate will be required, but

if each member will form an opinion from his own personal observation, and state what might be annually saved within the range of his professional practice, by removing drunkards from the haunts of dissipation to a quiet well regulated establishment, where they should be made to earn their livelihood, he would furnish us with arguments which can neither be gainsayed nor refuted.

“But the institution which we recommend will save what is more valuable than money. It will rescue many individuals from destruction, many families from destitution, and wipe a foul blot from the fair fame and good character of our State. Nay more. It would be an honor to that State, and with those other excellent charities which have been established for the restoration of health and reason, for the instruction of mutes and for the suppression of ‘wickedness and vice’, it will continue to diffuse blessings over the land long after its founders shall have slept in the dust.

“The committee would gladly present to the Medical Society some calculations relative to the expense of the proposed establishment, but it is thought better to refer the subject without observation to the decision of its patrons.

“We believe that land sufficient for cultivation and building, for the accommodation of at least one hundred persons, may be procured for twelve thousand dollars, and that those charitable citizens of our State, who have always been active in the cause of benevolence, will pay one half of that sum.

“We may then look with confidence to the Legislature for whatever else is necessary to complete this noble work.

“We need say nothing respecting the domestic arrangements of the institution, except that it must be entirely devoted to the cause of industry and temperance. Much of its success will depend upon the character of the person to whose charge it is intrusted. In him must be found a combination of rare and excellent qualities, which will secure the affections as well as respect of those who are to be reformed by his exertions. He must himself be a pattern of industry and temperance, in order to induce others to practice temperance, and to pursue industriously whatever they may be required to perform.

“In him dignity must be combined with cheerfulness, energy with mildness, and firmness with forbearance. His moral character and his moral precepts must be of that elevated standard which will secure the confidence of the public, as well as the respect of those who are committed to his charge.

“With such a Superintendent, the institution would support itself. With such a guide, an unfortunate class of our fellow-men, who at present earn nothing, enjoy nothing, and hope for nothing, would be led from their wayward career into the paths of rectitude and virtue.

“To such a plan it would hardly be reasonable to expect opposition—and yet opposition should not excite the least surprise, since every scheme of benevolence, whether designed for the mitigation of suffering or the extension of happiness, has in the onset been regarded as visionary, rejected as useless, or denounced as an unauthorized encroachment upon the established customs of the world. From physicians, however, who are in the habit of forming their opinions after mature deliberation, it will be sure to receive that degree of favor to which it is entitled.

“The only serious objection to the success of such a scheme is, that it will require a slight modification of existing laws. Instead of sending a drunkard to a workhouse for punishment, we would have him sent to an asylum for reformation, and instead of thirty days’ confinement we would require him to devote at least a year to the great and important work of reformation.

“In the course of that time, he should be taught to live without ardent spirits, to live in habits of industry, to earn at least his own livelihood, and in the course of that time also he should learn that he is under obligation of duty to himself, to his family, to his country and to his God.” * * *

The foregoing report having been read, was accepted by the convention, and the following resolutions were adopted:

(1) *Resolved*, That in the opinion of this convention it is expedient to establish in this State an Asylum for the Reformation of Inebriates.

(2) *Resolved*, That Doctors Knight, Simons and H. Wood-

ward be a committee to present this subject to the consideration of the Legislature and obtain an act of incorporation.

(3) *Resolved*, That a central committee of three members be appointed for the purpose of forming an association and procuring funds for the establishment of such an asylum—and that said committee be requested to report their proceedings to the next convention of this society.

(4) *Resolved*, That there be a committee of two from each county to co-operate with the central committee in the prosecution of this object.

In accordance with the foregoing resolutions Doctors Eli Todd, S. B. Woodward and George Sumner were appointed a central committee, and the following gentlemen were appointed a committee of correspondence:

Horatio Gridley, William S. Pierson, Hartford; William Tully, Isaac Jennings, New Haven; H. S. Perkins, William Robinson, New London; Samuel Simons, John Goulding, Fairfield; Darius Hutchins, Josiah Fuller, Windham; Luther Ticknor, Horman Bull, Litchfield; Samuel Carter, Thomas Miner, Middlesex; Eleazer Hunt, Frederick Morgan, Tolland.

This committee was never heard from and Dr. Todd's report and efforts were laid aside to be soon forgotten. It was too far ahead of the time and prevailing sentiment of that day. Three years later Dr. Woodward, then superintendent of the Worcester Insane Asylum, in his annual report, asserted the same fact, viz.: that inebriates were diseased and should be treated in special hospitals.

Thus the May meeting of 1830, and Dr. Todd's report were practically the first scientific outline study of inebriety in modern time. The real significance of this, will be more apparent from an historical tracing of medical progress of the alcoholic question both before and after this event.

The first clear statement of the disease aspect of inebriety, and the possible means and remedies, was made in the second century of the Christian era, by Ulpian. Although the same idea had been mentioned by Hippocrates and others, long before. In the eleventh century the same theory was urged in the medical circles of Spain, and put into practical operation. Finally, in 1747, Cardillac of Paris, elaborated and defended

this view, asserting that the question of alcohol and inebriety was purely a medical one, and should be studied by physicians. In 1790 Dr. Rush of Philadelphia urged the same view, and pointed out the disease of the inebriate and also medical means of cure. In 1802 Professor Cabanis of Paris, presented a thesis on the same subject, taking broader grounds, and in 1809 Professor Platner of Leipsic, published his lecture on this subject, urging still more advanced views. Then followed Salvator of Moscow in 1818, Esquirol of Paris in 1819 and Buhl Crausner of Berlin in 1822, with volume, lecture and essay, elaborating the subject more in detail.

It is not at all likely that Dr. Todd was aware of these efforts, except Dr. Rush's essay, or he would have referred to them in his report. There is every reason to believe that he reached these conclusions by a thoroughly original and independent line of thought. There was a genius and prophecy in his intuition of the subject, which was far beyond the scientific conception of that time, and every advance of science gives new interest to this report and its author. Dr. Woodward's very emphatic paper on the same subject, three years later, was the most noteworthy act of his life, and is practically the only statement which has survived his memory and work.

In 1839 a great movement began in England in a similar direction. A medical declaration was published affirming the danger of the use of alcohol and the diseases which followed its abuse, and urging a medical study of this subject by all physicians. This was signed by Sir Benjamin Brodie, Sir James Clark, Sir James Ferguson, Richard Quain, Mason Good and seventy-nine leading medical teachers and authors in the kingdom.

Ten years later, in 1849, another declaration covering the same ground, only expressing in stronger terms the need of medical study of the alcoholic question, was signed by two thousand leading medical men, and made an equally strong impression. Again in 1871 a third similar statement was presented to the British public, but as the facts were already accepted, it did not attract much attention. While these were evidences of the changes of public sentiment along parallel lines, the next emphatic statement of the same views contained

in Dr. Todd's report, appeared in the address of the British Lunacy Commission in 1844, of which Lord Shaftsbury was president, in which it was urged, that inebriates be treated as diseased, and that special hospitals be provided, and they be placed on the same basis as the insane. It was nearly forty years later before these views attracted attention and were practically accepted in England.

The next historic step was the projection of an asylum for the care and study of these inebriates, by a pioneer, who, like Dr. Todd, reached the same conclusion, in ignorance that any one had previously marked out the same line of work. After eighteen years of heroic struggle, Dr. Turner of Wilton, Connecticut, succeeded in establishing the first inebriate asylum in the world at Binghampton, designed to carry out the very plan Dr. Todd had outlined. Bitter persecution and profound ignorance finally broke up this pioneer work, and changed it to an insane asylum, but not until a number of similar asylums had been formed in different parts of the country. In 1870 the first distinct medical society was formed to study the inebriate and alcohol question, in New York City, called the American Association for the Study and Cure of Inebriety. This society has over two hundred members. Four similar societies have been formed in Europe during the last ten years. They are the English, French, German and Swiss societies. In addition to this there has been in England, a medical temperance society established, which has existed for ten years, and recently one in this country. The especial objects of these societies are to study the alcoholic question in the medical and economic aspects.

We come now to a second chapter in the history of the alcoholic question in Connecticut.

In 1872 Dr. Hawley introduced a resolution asking the State Society to appoint a committee to report on a State Inebriate Asylum. In 1873 this committee, with Dr. Hawley as chairman, made a report to the Society and a sub-committee was appointed to petition the Legislature. This committee consisted of Doctors Comings, Hawley and Russell. As a result of this, the Legislature incorporated the Connecticut Reformatory Home for Inebriates. In 1875 this was changed

to Walnut Hill. A corporation was organized, and a temporary asylum was established in 1877 and closed in 1889. Eight years of the most enthusiastic and energetic work, by Dr. Hawley and his associates on the committee, failed to break up the superstitious opposition and bitter criticism, which, forty years before, had chilled Dr. Todd's memorable effort.

This work by Dr. Hawley and his associates began by the passage of a very remarkable law, giving power to restrain the victims, which still stands at the head of all legislation for inebriates in the world to-day.

This last chapter was simply the repetition of the same old history that has opposed all progress of truth and science, that has condemned pioneers, persecuted the world's benefactors, and ever held back the hands on the dials of progress.

Dr. Todd's report was not lost, it only slumbered along, awaiting the sunlight and invigoration of a clearer scientific knowledge.

After forty years Dr. Hawley revived the same project, but the same dense ignorance, the same obstructive spirit and the same sneers and denials greeted it. Dr. Todd's report was ridiculed and he was called an extremist.

Dr. Hawley's labors were termed visionary, and he was called crazy and impractical. Even the asylum at Binghampton was stigmatized as an imposition and a humbug. But each of these efforts have been and are yet, great advance—stations that will be studied by the scientists of the future.

Looking back over the long century of this Society and the work it has accomplished, nothing appears more wonderful in scientific discernment than this report of Dr. Todd. Although the alcoholic question is still invested with absurd theories, and moralist societies and courts of law are struggling to devise some means for its control and remedy, a new era is at hand. An era of psychological medicine and study of causes and prevention. Alcohol, its nature and physiological action, its uses and abuses, is a medical subject of the greatest practical importance; and yet to-day it is studied almost exclusively by moralists and non-experts. What to do with the inebriate, was answered by Dr. Todd sixty-two years ago.

In 1872 a committee of the British House of Commons, after six months' investigation, reached the same conclusion.

Within a few years, four governmental commissions, after an exhaustive study, arrived at the same identical truths. The leading medical societies of the world, viz.: The British Medical Association, French Psychological Association, German Medical Confederation, Medical Society of the Rhine Provinces, with the American Medical Association, and many others, have all fully sustained the statements in that far away report.

The alcoholic question in all its varied relations, appeals to us for study and solution. The politician, the moralist, and charlatan are occupying the field that belongs to medicine and science. These are the teachers, who by means of the pulpit, press, lectures and books, give instruction upon the greatest physiological and sanitary evil of the day. The confusion of theories and remedies proposed, and the deplorable dogmatism of medical men, who write from a moral point of view, together with the brazen charlatanism of the present day, appeal with the greater urgency to every physician to study this subject, irrespective of all theories, from a scientific standpoint. It is a source of pleasure to realize, that the Connecticut State Medical Society has presented to the world the most scientific and advanced studies on the subject.

The inebriate and the alcoholic questions have already come into the realms of science, and will soon occupy a very large place in the discussions of this Society. Thus we shall realize the service of the few pioneers who lived so far in advance of their day and generation, and whose writings and efforts will make them famous in the history of scientific progress.

In the discussion which followed Dr. Parsons said :

Dr. Todd's report should be reprinted in order to be preserved from oblivion. The Connecticut Medical Society should be proud to record the fact, that the disease theory of inebriation was so early suggested by a member of our organization. The question is a living one, and must be met. Means hitherto resorted to have thus far failed, such as prohibition, inebriate asylums, etc. Temperance societies have failed. The

question of cure is open and must be considered—with hope of solution. Whatever means are in use the inebriate's own will must coöperate. His own determination is an important factor in the cure.

He also differed from Dr. Crothers inasmuch as, though inebriety was a terrible scourge, but little result was effected because the disease theories have not become popular among the people. He entered into the psychology, as to where responsibility became an irresponsibility.

Whatever method is adopted the necessity is to reform the inebriate. We must do one thing—work on the man until he *won't* drink any more. He must be made to understand that volition on his own part is necessary. The sooner we attack the question in a business-like way, the better.

Remarks of Dr. Orlando Brown :

I assume that the question whether chronic alcoholism is or is not a disease has passed beyond the stage of controversy; although as recently as within the past two or three years, expression of sympathy for the inebriate have been characterized as pseudo-ph. lanthropy by members of this Society. The expression of such sentiments appears strange where the pathologists can point to the opaque arachnoid membrane, the excess of cerebro spinal fluid and the wasted and rounded convolutions of the brain, as evidences that chronic alcoholism is a disease. It is doubtful whether more serious cerebral anatomical lesions can be found in the majority of those who die in the hospitals for the insane, than among those who die from chronic alcoholism, yet our laws hold the inmates of the asylum guiltless, no matter how great may be the crime committed by them, while the victim of chronic alcoholism cannot plead his disease, even in extenuation of the most trivial offence.

A correct diagnosis is as important, both to the physician and patient, in this as in all other diseases. Because a man uses spirituous liquors habitually, it does not necessarily follow that he is suffering from chronic alcoholism. Of a given number of persons addicted to the daily use of such liquors, a part will escape without apparent injury; others will show unmistakable symptoms of the disease, but not to an extent

that incapacitates them from the performance of their daily duties or the pursuit of their accustomed avocations with undiminished mental and physical vigor; but unfortunately in a large percentage of the number, the disease will advance with greater or less rapidity into a state of mental, moral and physical impotency. Among the first symptoms are those that point to a disturbance of the nerve centers, such as muscular tremors, an irritable mental condition, gradual impairment of the moral and intellectual powers, which at times may develop into mania, melancholia or dementia; another symptom, which is evidently due to a neurotic condition and is often one of the earliest to appear, is what is called the alcoholic appetite. I am sorry that some other name has not been given to this symptom, as we are apt to associate with the word appetite, an ordinary craving, such as a healthy person has for food, and which may be said to be entirely under the control of the will. The alcoholic appetite, when fully established, is no more to be compared to this than is the gentle summer breeze to the cyclone that leaves death and destruction in its path; or the sensations of the mechanic, when the mid-day whistle summons him to his dinner, to the maniacal cravings for food experienced by the Greeley exploring expedition. In its physical manifestation, it is the craving of the stomach, the heart, the liver, the kidneys and the brain for an accustomed stimulant. When we add to these the craving to escape from the mental and moral tortures of a ruined life, of blasted hopes, of the loss of friends, self-respect, of all that makes life worth the living, is it a wonder that the poor inebriate, shattered in mind and body, yields to temptation and seeks surcease from sorrow in alcoholic visions or lethargy.

I have not time to even mention the many organic lesions (with which we are all familiar) that go to make up the sum total of chronic alcoholism, but will conclude with a few words respecting its treatment, which is a question of *to-day*. The quack, the empiric, the faith curist, the Christian scientist, and their congeners claim to furnish an answer to the question, and each points to cures as evidence of the efficacy of his own special remedy or course of treatment, but the innumerable wrecks, stranded on the shores of their preten-

sions, furnish abundant proof that their claims are without foundation.

Every physician who has treated this disease has found what I have attempted to briefly describe as the alcoholic appetite, the most formidable symptom to overcome. As this appetite is the product of morbid physical, mental and moral phenomena, it must be overcome by physical, mental and moral forces. In some cases a cure may be effected, if we convince the patient, *intellectually*, of the injurious effects that are sure to follow the gratification of the appetite, and he will, by his own *will* power control it. In some, the awakening of conscience to the enormity of the sin of indulging the appetite, is sufficient stimulus to the will to enable the patient to overcome it. While in many, a dread of the physical results will have the same effect. To *my* mind it is doubtful whether the great majority of cases thus effected, are cases of chronic alcoholism in which the appetite has been fully formed.

I believe the first thing to be done, when the disease is fully established, is to place the patient under such conditions as will absolutely prevent him from procuring spirituous liquors, but in doing this, we should be careful to avoid every unnecessary restraint. This being accomplished, we should resort to every possible measure to alleviate those conditions upon which the appetite depends. The physical state of our patient should be carefully studied and appropriate remedies employed, to relieve as far as possible, all morbid physical conditions.

The mental and moral is often more difficult to treat than the physical state of our patients. We must cause strength to supplant weakness, hopefulness, despair, cheerfulness, despondency, and from a soil degenerated by inebriety must be made to grow the fruits of a regenerated life.

Dr. Crowthers replied that the subject must be discussed by medical men irrespective of any theory, and from a scientific side. The central object of Dr. Todd's paper was to house these victims and study them, and that was one of the leading conclusions of medical study to-day. He closed by urging the profession to study this subject. As the Society had led in this matter long ago, they should take it up again as the coming topic of the century.

PETROLEUM PREPARATIONS—THEIR THERAPEUTIC USES IN NOSE AND THROAT AFFECTIONS.

BY CARL E. MUNGER, M.D., WATERBURY.

Although petroleum has been known as such for centuries, and that it has possessed medicinal qualities, it is only within a very few years that the petroleum products have taken a recognized place in the doctor's drug armamentarium, and at the present time, these preparations hardly receive the attention which is justly due remedial agents that can be utilized in such a variety of ways, in the alleviation of pathological conditions as the so-called *petroleum products*.

*The *petroleum preparations* which we use in medicine are "natural products" obtained in the various methods of distillation, (fractional, destructive, etc.) from the crude petroleum or rock oil, as it is often called, and which is a †fluid substance, one of the ultimate results of a series of changes which take place under certain conditions in organic matter.

PHYSIOLOGICAL ACTION.

†Petroleum is supposed to be the result of the joint effects of heat, steam and pressure, when these act on strata which contain organic remains. While we cannot find out the methods of manufacture of many of the very numerous petroleum preparations that the markets are flooded with, yet we will find that many of them can be utilized to great advantage medicinally. It is, of course, unfortunate that the formulæ and exact process of preparation are in many cases unknown except to the manufacturers, and that most of the petroleum preparations are more or less of a proprietary nature. It is especially unfortunate when we are trying to investigate a subject of this kind in a scientific manner.

*Notes on New Remedies, September 1, 1891, p. 37, Aulde, John, M.D.

†Encyclopedia Britannica.

*The various preparations which we meet on every hand, whether semi-solid or liquid, are all *natural products*, which are materialized during various processes, in the distillations; the semi-solid and liquid differing only in the presence or absence of paraffin (wax).

†Petroleum is a stimulating, anti-spasmodic expectorant and diaphoretic. It is a valuable alterative; digestion becomes improved under its use. The appetite is increased. The loss of weight is often arrested. It is antiphlogistic. It quiets the irritable heart; it lessens vascular congestion. By some it is claimed to be anti-septic; at least it is aseptic.

Taking the most commonly used of the petroleum preparations—vaseline or petrolatum—*we find that it can be taken in almost unlimited doses internally, without toxic effect. Its effects are due to two remedial agents—an oil and the paraffin which is contained in it. It is also a solvent, and this together with its soothing action makes evident, what a powerful agent for good we have in all inflamed states of the mucous membranes of the air passages.

By this agent we may therefore accomplish much, getting rid of unwholesome secretions and allaying irritable conditions of nasal, pharyngeal and laryngeal mucous membranes. It is sedative and aseptic, it is a solvent, it is a non-irritating lubricant. The physiological properties of the more liquid preparations, such as liquid albolene, benzoinol, fluid glymol, etc., are of course similar, but can be utilized in the form of sprays, either alone or impregnated with some more active remedial agent, as may be demanded by the pathological condition which is being treated.

TOXICOLOGY.

The preparations of petroleum in common use are practically non-toxic. In fact I have been able to find reports of only three cases, where the ingestion of crude petroleum has produced symptoms of poisoning, although †Farquharson states that excessive doses of the crude oil produce feelings of oppression, giddiness, palpitation, faintness and headache, but

*Notes on New Remedies, September, 1891, p. 37, Aulde, John, M.D.

†United States Dispensatory, fifteenth edition.

‡Farquharson, Third American Edition.

no stupor or even sleep. *In one of these cases a pint of petroleum was swallowed by a would-be suicide. There was slight pain in the stomach, with but little febrile excitement. From the entire surface of the body was exhaled a strong odor of petroleum, but the breath was entirely free from it. On the surface of the urine was a thick layer of oil, "not as a secretion from the kidneys but as a kind of mechanical filtration."

The urine was slightly alkaline, and contained one tenth per cent, of albumin. It was rich in pus and epithelial scales. The patient recovered in six days.

†Case Two—A pint of ordinary petroleum was swallowed. At once there was felt a strong sensation of oppression along the esophagus and in the stomach. There was extreme agitation. There was exhaled a powerful odor of petroleum. On the surface of the matter vomited, as on the surface of the stools, was a large amount of petroleum. The amount gradually decreased, as did the small amount of albumin present in the urine. During the first four days the petroleum in the urine prevented its decomposition for ten days.

‡Case Three—A young child drank fʒij. or fʒiv. of coal oil from a tin lamp. The case was under observation within ten minutes after the oil had been swallowed. The patient was covered with a cold sweat, was perfectly relaxed, pulse frequent and feeble, respiration labored. In an hour after taking the oil, emesis being in the meantime induced, the patient fell into a state of profound coma. The skin became hot and dry, the pulse full and bounding, and all efforts to rouse him were without avail. He lay in this condition eighteen to twenty hours and awoke perfectly well.

THERAPY.

The literature of the Therapy of Petroleum Preparations is very meagre, and it is only by searching the various medical journals of the past few years, that one can bring together material enough to make a paper on the subject, that is in any way satisfactory or complete, but the whole evidence goes to

*American Journal of Medical Sciences, 1873.

†Medical Record, Sept. 26, 1885.

‡Louisville Medical News, 1880, X. 161.

show that we really have a series of preparations, whose use has been followed by the most pleasing results, and that at the present time we have products, that are easily available by reason of their purity and freedom from disagreeable after-effects.

*Taking a most common disease, bronchitis, it is found that the inhalation of warm vaseline spray, not only relieves the patient of many uncomfortable symptoms, but also in reality much shortens the duration of the attack; this both in *acute* and *chronic bronchitis*, but more especially in the acute disease. In these cases good results seemed to be reached whether the plain spray of vaseline was used or whether carbolic acid was incorporated with it or the spray of Bonzoinol was used.

In that dreaded disease tuberculosis of the lungs or larynx, petroleum in one form or another has played an important role in the medicinal treatment:

†In the Paris hospitals a mixture of vaseline grammes c. and iodoform grammes i. has been injected, a syringe barrellful of the mixture once a day for a considerable length of time, say two months, into the muscle of the shoulder on the side in which the lesion of the lung was located.

*The "Huile de Gabion", which is a petroleum, was a famous French remedy in phthisis, and was exhibited in capsules in doses of twenty-five centigrammes of the oil. Vaseline itself has been used as a food in the Paris hospitals in cases of phthisis, for the general building up of the patients.

‡The Mecca oil, which is a mineral oil, from a place near Mecca, Ohio, is said to be useful in bronchial, laryngeal and pulmonary affections.

¶Griffith speaks enthusiastically of the use of petroleum in cases of incipient phthisis. In one thousand cases of chronic bronchitis, asthma, catarrh and beginning phthisis he has prescribed *petroleum* in pill form, with none but happy result; and even in cases of advanced phthisis, has found more relief afforded by this remedy than by any other. The effects of the

*Medical Journal, March 22, 1890, p. 318, Bauer.

†Medical Times, January 4, 15, 1884, Linn.

‡American Dispensatory, tenth edition, 1876.

¶Griffith's New Remedies, May, 1880.

pills as stated by him are expectoration, followed by an alleviation of cough and night-sweats, while the appetite and strength are gradually restored. He used a "simple semi-solid crude petroleum such as occurs on the tubing and casings of the wells of Pennsylvania without manufacture", and which he designated as *petroleum mass*. This was used in the following formula:

R Petrolei mass, ℥i.
 Pulv. cubeb.
 Pulv. doveri, ää, 3vi.
 (ft. pil. gr. v.)

*The oil of the Alleghany Valley has long had a reputation as an internal remedy in consumption.

Probably one of the most common of the preparations of *petroleum* used internally in our country and one that is certainly quite a palatable one, and which can be given to patients with easily disturbed stomachs, is an emulsion of petroleum, which is supposed to be made of "purified petroleum", combined with the hypophosphites and manufactured by the Angier Chemical Company of Boston. While it is exceedingly distasteful to be obliged to prescribe a preparation bearing a firm name, yet it would be unwise to neglect such a valuable agent, as the praise of those who have used, it would signify.

†Vaughan reports a case of chronic pneumonia which was getting rapidly worse, in which he used petroleum in an emulsion with acacia and mixed with sherry wine, the dose of petroleum being f3ss. The pulse became rapidly normal from one hundred and twenty, respiration became easy, the dulness disappeared and the recovery was complete.

‡In cases of spasmodic croup petroleum has been given internally with the production of relief, sometimes by inducing vomiting, sometimes by promoting a secretion of mucus and relieving spasm in this way.

*Encyclopedia Brittanica, Volume XVIII, p. 720.

†British Medical Journal, 1869, Volume I, p. 281.

‡Medical News, August 11, 1888, (Sharp).

SPRAY.

*One of the early recorded cases of the use of the oil spray is one reported by Mulvany. This was a case of "erysipelatous laryngitis", in which the dyspneal spasms were immediately relieved by a coal oil spray used every two hours, and the power of swallowing was regained.

Although the case ended fatally, by an extension of the disease to the bronchial tubes, large and small, the relief after the use of the spray was so marked, that it could be due to no other cause than the sprayed oil.

The use of the petroleum sprays in nose and throat therapeutics has become very general, and deservedly so. We have a remedy, that can be applied thoroughly, and without annoyance to our patients, a remedy that not only possesses valuable medicinal qualities of its own, but which, by its solvent powers, can be used as a vehicle for numerous agents suitable for special occasions, a vehicle which will carry such agents to all parts of the upper air passages thoroughly and pleasantly. By some it is even thought possible for the spray to be carried to the air cells of the lungs themselves.

The therapeutics of many of the mixtures which are made of active medicinal agents with the liquid petroleum products, would be but the therapy of such agents, but in some cases, the effect seems to be greatly enhanced by the petroleum preparation used, †as e. g. in cases of acute rhinitis, a most excellent spray is a solution of salol in liquid benzoïnol gr. xx. to f̄ȝi. This is immediately soothing and affords permanent relief.

Those who have found menthol of use in cases of hay fever have found it most satisfactory when combined with some liquid preparation of petroleum, such as liquid albolene, benzoïnol or fluid glymol.

‡Benzoïnol is available both on account of the benzoin's antiseptic properties and the petroleum's protective, solvent and soothing qualities, and may be used in eczematous conditions in or about the nose or when there are cracked and

*British Medical Journal, 1869, Volume I, p. 281.

†Post Graduate Journal, April, 1891, p. 164, Porter.

‡Terry—Clinical Manual.

crusty nostrils. *It, in common with other liquid preparations of petroleum, is found to be useful in most irritable conditions of the upper air passages.

After cautery operations in the nose, mouth or throat, a liquid petroleum product can be used with the most satisfactory result.

These preparations remain so much longer in contact with the mucous membrane, than do the aqueous sprays, that they are on this account most satisfactory for use in nose and throat.

In laryngeal tuberculosis, abalone or benzoinol sprays can be used, with the effect of making the lives of those suffering from this disease much more endurable, than without the aid of these substances. In fact there is no acute inflammatory condition of these mucous surfaces that will not be benefited by proper use of the petroleum sprays.

†Bosworth uses "voschano oil", supposed to be a Russian petroleum product, when he wishes such a vehicle for medicinal agents in acute rhinitis.

‡Among the various therapeutic uses, to which the petroleum preparations are put, its application in diphtheria, both internally and locally, has been advocated, both as a remedy and as a prophylactic. In pertussis, cosmoline lessens the violence of the paroxysm, mitigates the attack, and shortens the duration of the disease. This remedy also lessens the cough in measles.

¶Seiler states that petroleum seems to have a specific action upon the respiratory mucous membrane and uses crude petroleum in doses of gr. ij. in atropia. Finally, as an aid to all other means of treatment of the voice or throat, surgical or otherwise, any of the neutral products of petroleum, sprayed through the mouth or nose during inhalation are invaluable.

Dr. Swain, in discussion, said he thought Dr. Munger right in stating that the field is bare along this line and that there is room for careful observation. He had used the petroleum

*Post Graduate Journal, July, 1891, p. 249, Nichols.

†Diseases of Nose and Throat—The Nose and Naso-Pharynx (Bosworth) p. 115.

‡Medical News, Phil., 1882, Nov. 4, p. 509 (Henry L. Boyd).

¶Seller, Diseases of Throat, 1881, p. 156.

products because they produced a longer effect on the dry state of the mucous membranes; has used it in atrophic catarrh. It dissolves the crusts. Thymal succeeds well in spray, twenty grains to the ounce. He never gives the application internally and follows all applications with petroleum spray. I would like to thank Dr. Munger for the review of this subject which has been an important one to all who do much work in connection with the nose and throat. Personally, I do but little work with these preparations except locally and this principally as solvents to various medicinal substances used, first, after ordinary operation in both cavities, cauterization, removal of tissues long and soft, etc. Secondly, in treating acute disease as a soothing application. Thirdly, in cases of atrophica trouble, we have a most valuable help in softening up of hardened secretions, and in the fact, that drug dissolves very nicely the drugs most useful in such cases, namely, thymol, and menthol.

PROFESSOR KOCH'S TUBERCULIN AS A MEANS OF CURE IN TUBERCULOSIS.

BY C. B. NEWTON, M.D., STAFFORD SPRINGS.

This is a fitting occasion, to take in review what has been discovered during this century of remedial agents; from this mount of remembrance to look over the past work of the fathers of medicine. We exult in the reflection, that to our state and brotherhood belong the honor of having introduced to the world the inestimable blessing of anesthesia. In the discovery of greatly improved methods of treating surgical diseases and traumatisms, in no generation in history is recorded so great advance. In fact they may be said to have been brought out within our glorious time and accepted as the standard theory and practice of to-day. The antiseptics of Prof. Lister, the anesthesia of Dr. Horace Wells of our State, whose name is more imperishable than granite, have inspired us with a venture to give surgical aid to the very seat of life.

Before anesthesia and antiseptics it never occurred to the surgeon in his most hopeful dreams, that portions of the vital parts of man could be excised and the parts so coapted as to completely restore their function. With fear and pain obliterated in anesthetic sleep, the surgeon guides his knife with a deliberation and caution of one who holds the life in his hand, while antiseptics guard the wound from septic harm.

In another field, the most important scientific investigations into the nature, causation and treatment of tubercle have been made. Prof. Virchow's definition of tubercle is "a feeble and miserable neoplasm incapable of organization", or rather he says, "tubercle is a fibro caseous neoplasm of nodular form characteristic of a disease known as tuberculosis".

He states how essential it is that the relations of the various organisms to one another should be discovered.

He believes it possible by domestication, using his expression, to change the nature of certain of these organisms, and describes recent experiments. It is claimed that micro-organisms may be generated by decaying tissues. Also that scientists find an uncertainty in distinguishing one micro germ from another in their outline under different conditions. The important fact of to-day is, that some of the insidious poisons, having their origin either within or without the body, have been defined and individualized through exhaustive biological studies by our own and European scholars. They have made great progress in classification upon a scientific basis by which all scholars may be able successfully to pursue the study of bacteriology.

A most familiar example of rapid cell formations is observed in the culture mediums of saccharine fluids containing albuminous matter. Under the microscope, they are found to be aggregations of ovoid cells classified as vegetable and known as yeast cells. A prototype of cell formation in other cultures, a power of self-production, the forming of new cell growth, a protoplasm or basis of life, an organized ferment growing and multiplying at the expense and metamorphosis of the substances on which they act. It appears from a comparison of the researches of Lavoisier, Seguin, Valentine and other observers, that water is discharged from the system in proportion of thirty per cent., by cutaneous perspiration and brings with it various ingredients absorbed from the glandular organs.

The eliminating action of the skin is modified in various diseases. It is modified and affected also by habit, by exercise, by sudden alternations of temperature and humidity. The secretion of the sudoriferous glands holds in solution upon the skin sodium salts, potassic chlorides and traces of alkaline phosphates. Their re-absorption by the skin must have a toxic and harmful effect, as illustrated by the well known phenomena of a cold.

May not the suppression and reabsorption of these waste materials which is the office of the skin to eliminate, give

origin to the abnormal miliary tubercle, whose habitat is the apex of the lungs.

May not these estrayed and harmful materials, which have found their way back into the absorbent vessels and the blood, become the embryo and foci of the *tubercle* nodule, primarily invisible to the eye and become a focus of inflammation and the home, if not the origin of the tubercle bacillus. Reinhart showed that these cells could be found in all products of chronic inflammation and their presence was only an evidence that a certain amount of inflammation existed. Colberg asserts that tubercles in the lungs originate from the capillary vessels and the connective tissue.

Bastian observed tubercle nodules upon the small vessels in cases of meningitis. Knauff looks upon lymphoid structures as the starting point of tubercular inflammation. Klebs maintains that the cells of lymphatic vessels are the most frequent location of the primary tubercle. Rindfleisch traces the beginning in miliary tuberculosis to the capillary lymphatic vessels.

Professor Senn of Milwaukee, says: "When we speak of tubercle, we mean a granule which is composed of leucocytes, derived from the capillary vessels damaged by the bacillus of tuberculosis; that one of nature's means in preventing the local extension of tubercle and in guarding against general infection is calcification of the tubercular product; that this implies the removal of the cheesy material and the substitution for it of inorganic calcareous material."

Whatever may be the origin of the tubercle bacilli, it would seem quite possible that the *materies morbi* of tuberculosis consists of re-absorbed inorganic salts, identical with the cheesy and calcified tubercle in lung tissue.

Do not these conditions of inflammation, the inrush of white blood corpuscles or leucocytis, cause what is analagous to the ferment of saccharine fluids containing albuminous matter resulting in small oval cells as found under the microscope and of a vegetable nature?

These yeast-cells are destroyed by chlorine, iodine and creosote, as are the spore of micro organisms found in pulmonary tubercle.

It would not be logical to assert that bacilli originate *de novo* but rather that they may be produced by a *condition* of the body, such as is termed the tubercular diathesis, acquired by heredity, the inheriting of what will finally result in this disease, the sooner, if of vicious habits or harmful surroundings. Professor T. Gaillard Thomas well said that a higher duty of medicine is recognized to-day in the medical education of mankind; the instruction of the masses of the world in those means and methods by which disease may be prevented: that death from tuberculosis can be diminished by three fourths. He believes in the gospel of cleanliness and that filth is, as Watson, the Macaulay of medicine, has called it, the handmaid of disease.

As to the effect of drugs nothing has yet been discovered by which the disease can be eradicated or poisoned out.

It is not a pleasing fact for physicians to admit, that this disease causes one death out of every seven, notwithstanding every conceivable method has been tried from the Shurly-Gibbs to the sulphur gas enemata. The hot air of Weigert was found to be too cool when the lung tissue was reached, so both lung and bacilla without harm escaped. Ozonized air by Boutems proved useless. On the other hand we have the savage or over-eating treatment, the patient being stuffed with food as poultry are fatted for the market. Pharmacists have over-crowded the market with consumption cures, and the consumptive dies after having taken all he had of time and money to take. Chloride of zinc is one of the recent remedies. Another advises the use of chlorine gas; another the chloride of gold, suggestive of Keely's cure for drunkenness; Brown-Sequard's elixir of life; Pasteur's cure for rabies. Koch's tuberculin for tuberculosis excited greater hope and greater disappointment than any other nostrum, the preparation of which was kept a secret, for the apparent purpose of enriching Professor Koch, thus making it a quack medicine.

It went up as a great rocket, attracting the attention and the hope of the wide world. It never came back. So great was the reaction against it, that the Bavarian government forbade the sale by druggists of tuberculin in Bavaria. Even physicians could not buy it.

The French believe that the glory of curing tuberculosis will belong to them.

Dr. Lamielongue has communicated to the Academy of Medicine a process which he is practicing, of which he has great hopes. He inoculates tuberculous surfaces with chloride of zinc solution. The tissue thus acted on becomes capable of being cicatrized and is gradually removed. Thus being scientifically surrounded by cicatrix the tuberculous enemy of course will surrender. Tubercular treatment by Germain Séé wrapping the body in cloths wet in solution of creosote, would hardly seem practicable. Professor Liebrück of Berlin, has used the cantharidate of potassium by hypodermic injection. Serum of goat's blood has been tried by some of the French physicians.

Aniline hypodermic injections with olive oil have been used by Dr. C. E. Bruce of New York. Dr. White of New York, has experimented with solution of chloride of gold. Dr. Tyn-dale of New York, has used pure vaccine lymph subcutaneously once a week. There was no active reaction and in some cases with benefit. He believes that more than one animal virus or chemical poison would be found to produce the same effect.

I have used the mercuric chloride, one grain dissolved in four ounces of alcohol, by inhalation. One teaspoonful is added to a little water in the atomizer, to be used a part at a time during the day. It has been used continuously for months with benefit and without unpleasant effects.

One thing is certain, it is the greatest of germicides. Used in this way it is brought more directly to the seat of the tubercular deposit or ulceration than by any other method. The venom, ptomaine or putrefactive alkaloid, or whatever it was precisely, of Prof. Koch always produced a more or less morbid physiological action according to the quantity injected. The inflammatory reaction, the immediate constitutional effect was a source of danger. Tuberculin was not used long enough to know whether it would confer prevention to further appearance of the disease.

It was observed by some to have the characteristic reaction in healthy persons and no reaction in persons who had the dis-

ease, showing that it had no certain diagnostic indications which were claimed for it by Professor Koch.

It is the general admission of learned experimentalists that somewhere and sometime in this field of research, will be found a remedy for the cure of tuberculosis. Though Professor Koch has not yet attained the possibly attainable cure, it ill becomes physicians to censure him for the seeming failure, since it is only through untiring study and experiment in biological research that even the least of important facts are proved.

The first use of Professor Koch's tuberculin in this country was made in this city by Dr. Foster and Professor Chittenden of the Yale Biological Laboratory, December 3, 1890, in a case of pulmonary tuberculosis. The reactions reported by Dr. Foster agreed with the description given by Professor Koch, followed by increase of appetite and gain in strength, but on the other hand he reports that the cause of the disease was not arrested. It seems from their observations in other cases treated, that the greatest benefit was obtained from its use in cases of lupus. The results of their experiments with tuberculin quite correspond with most others in this country and Germany, that its action is of greater benefit in cases of lupus and tuberculous diseases of the joints than in the pulmonary disease.

Professor H. C. Ernst, bacteriologist in the Harvard University, after giving the results of his treatment in thirty or forty cases of tubercular diseases, draws the following sad conclusion, that it has no diagnostic value, only possible temporary beneficial results. Its advantages are so doubtful that he would not use it again in practice, though he had no personal experience with its ill effects, which seems to be the general verdict. A similar admission which a poor woman made when she carried her sick child to the dispensary. She told the doctor that he had taken all his medicine, but did not seem to be any worse for it.

Professor Ernst further writes it seems as probable now as last year, that by methods which are still to be worked out, there is to be isolated from the cultures of the various bacteria or from the results of the activity of these cultures, some-

thing that will prove destructive to their activity and hurtful action in the human body.

So that the question under discussion at present must be regarded, as merely the first uncertain step toward something that may be of greatest benefit to us all.

THE PROPHYLAXIS OF TYPHOID FEVER.

BY C. J. FOOTE, M.D., NEW HAVEN.

In dealing with the prophylaxis of typhoid fever, I propose first to consider the agencies through which typhoid fever is communicated, and then the means whereby we may prevent it.

The agencies, by which typhoid is communicated may be named in their order of frequency somewhat as follows: Water, milk, fomites, dairy produce, ice and air. Brouardel has collected the records of sixty epidemics traced to water, and thinks ninety-nine cases out of a hundred due to impure water. Hart has collected the records of fifty epidemics, traced to milk.

No proof is here needed that typhoid is communicated by water. Evidence which was before practically conclusive has been clinched, by the chain of evidence furnished by the bacteriologist who finds the typhoid bacillus in the body of the patient, in the dejecta and in the water supply. But though we know that water is a means of communication, it may not be amiss to consider briefly the teachings of bacteriology in regard to the duration of vitality of the typhoid bacillus in water, and in regard to the distance it may be communicated by water.

Bacteriology teaches that the typhoid bacillus rarely lives in unsterilized water beyond the sixth day from the date of infection,* and as far as is known it does not ever under ordinary conditions multiply in unsterilized water; but this is far from admitting that extraordinary conditions may not occur, which would favor its increase in water, such as a very high temperature and a great increase of organic matter, with a diminution in the number of water bacteria. That the typhoid bacillus lives only six days in water is remarkable, when we consider its

*Karlinski. *Archeiv fur Hygiene*, Bd. IX, Hft. 2, s. 113.

resistance to desiccation and its vitality in the soil. But its short vitality in water is easily explained by the destructiveness of certain natural agencies, the most important of which is the antagonistic action of water bacteria. Other agencies less important are heat, cold, sunlight, oxidation, dilution and sedimentation. Heat and cold probably have little destructive influence under natural conditions, as the typhoid bacillus is not killed by the greatest heat of summer or the greatest cold of winter. Sunlight seems to exert its destructive action chiefly in acid nutrient media.*

Sedimentation is of some importance. This is merely the settling of germs in water where they are not kept in mechanical suspension by the agitation of the liquid. This subsidence of bacteria has been shown practically to exist, and also that the number of bacteria tends to increase in river water the farther down we go from the surface. This seems especially to occur in a river that flows sluggishly, as has been proved by Frank to exist in the river Havel.† This teaches us that the beds of rivers and lakes are liable to contain infected matter, and when a source of water-supply, they should not be dredged or otherwise stirred up. Epidemics of typhoid have not infrequently been associated with the dredging of a water-supply, the most recent instance recorded being that at Geneva.‡ Different waters vary much in the activity of these purifying agencies which I have mentioned. In a river we have abundant water bacteria, sunlight, if rapid, not much sedimentation, considerable oxidation and dilution. In well water, on the other hand, we have much fewer water bacteria, less sunlight, much less dilution and oxidation, but sedimentation more active; on the whole, therefore, well water would seem to be much more favorable for the preservation of typhoid germs than river water.

We are thus led to ask how far does a stream have to flow before these natural agencies mentioned, i. e. antagonistic water bacteria, sedimentation, dilution, oxidation, heat, cold

*Gaillard found that the bacillus typhosis in an acid bouillon culture died after three or four hours' exposure to sunlight. Janowski found that sunlight only hindered the growth.—*Centralblatt für Bakteriologie*, 1890, II, p. 195.

†*Zeitschrift für Hygiene*, III, s. 355.

‡Hare's *System of Therapeutics*, Vol. II, p. 273.

and sunlight, have purified it of harmful bacteria? The distance a typhoid germ can be carried before it will be destroyed is of course the resultant of many forces, and it is almost impossible to state in a given case how far the distance is, but, in general, biological as well as chemical examinations of river-water seem to show, that a river purifies itself in a flow of between fifteen and twenty miles, provided there is no fresh contamination within this distance.*

This is stated with a knowledge of the fact that a few epidemics of typhoid have been traced to a greater distance,† but in these cases the conditions certainly must have been exceptionally favorable for carriage of infection, such as little dilution and a rapid current.

It has been stated that Albany, which drinks water from the Hudson some ten miles below where Troy's sewage empties into it, has less typhoid than Troy itself. Whether this is so or not I do not know; if it is so, it merely shows the power of certain natural agencies in purifying and rendering harmless a contaminated water, but in no way should lead us to put such confidence in these agencies as to neglect disinfection.

Finally one is led to ask, if the typhoid bacillus is so short lived in water, why is water a so frequent source of infection? We must remember that the typhoid bacillus lives six days in water and during this time there is certainly chance for infection. But a water may remain contaminated a much longer time than this. This arises from repeated contaminations of the water from the soil. Typhoid dejecta are thrown on the bank of a river as at Plymouth, and with each rainfall or freshet fresh infections are washed into the river; thus soil-infection may be a source of long continued contamination to a river. The soil is a natural preserver of the germs of typhoid.

The influences of determining the vitality of the typhoid bacillus in the soil are somewhat the same as those determining its vitality in water, such as heat, cold and sunlight. Cold does not kill outright, but shortens the vitality in the soil.

*Park's Hygiene, p. 411, (American Appendix). Currier—American Journal of Medical Sciences, 1890, Volume II, p. 592-593.

†American Journal of Medical Sciences, 1891, Volume II, p. 683.

Thus between seventeen and twenty-two degrees centigrade, the typhoid bacilli live one hundred and fifteen days; below ten degrees centigrade they live only forty-four days.* An acid reaction to the dejecta hastens the death of the bacillus. Heat in some cases favors the multiplication of typhoid bacilli in the soil. Between sixteen and thirty-two centigrade they have actually been known to multiply in the soil, even in the presence of many other forms of bacteria. In sterilized dry garden earth they live five months; if the earth is watered every five days they disappear in one month. In unsterilized liquid mud they do not live over three weeks. A mass of typhoid feces dried in the sun showed the typhoid bacillus at the end of a month, but in two months they had disappeared.†

It has been and still is a custom to bury excreta without disinfection, believing the soil to be a safe place, but the fallacy of this idea need only be shown by referring to the results of the investigations quoted and to epidemics of typhoid, arising when the soil is opened up where typhoid dejecta have been previously buried.‡

The evidence that typhoid is communicated by air is by no means conclusive. The possibilities in the way of infectious matter being carried around by the air and inhaled, is well illustrated by Cornet's work on tuberculosis, and the weight of evidence seems to be, that the only things which prevent the spread of bacteria by the air are the destructiveness of desiccation to many forms.

If a germ can endure desiccation, and if the matter to which it is adherent is dried and pulverized, currents of air easily waft around infection.

Cholera cannot be carried by air as the bacillus is too susceptible to drying. The typhoid bacillus can, on the other hand, endure desiccation for several weeks without loss of vitality. Could we expect it otherwise, than that it should be possible for a small amount of dried fecal matter to be shaken off the bedding of a typhoid patient, and perhaps be carried by an attendant to a milk supply, where it soon develops a

*Uffelmann. *Centralblatt für Bakteriologie* Bd. V, s. 530.

†Karlinski. *Centralblatt für Bakteriologie*, Bd. VI, s. 68, 74.

‡Pepper *System of Medicine*, Volume I, p. 256.

luxuriant culture? It is possible, therefore, that dried fecal matter is disseminated by the air. But because it is possible that typhoid germs can be carried by the air we must not therefore infer that they are found in the air. Pathogenic germs are rarely found in transit, so to speak, though we have abundant evidence that certain ones such as the bacillus tuberculosis and the staphylococcus pyogenes aureus are carried around by air, and if these are carried, why not the bacillus typhosus. It cannot be denied that the air may be responsible for the dissemination of dried typhoid germs.

Whether it is possible for the typhoid bacteria to be disengaged from moist fecal matter and set afloat in the air is another equally important question in view of the possibility of infection from untrapped drains and soil-pipes. Before answering this question it must first be stated that typhoid bacilli can live and even multiply in sewage if it has an alkaline reaction, but it disappears from sewage in forty-eight hours, if the reaction is acid.* This is enough to show the possibility of our drains and soil-pipes, under certain favorable conditions, becoming a culture media for typhoid germs.

It seems doubtful, however, if bacteria can be raised from water or sewage without considerable splashing and the formation of spray, aided by a strong current of air. In a well-trapped system of drainage, currents of air into a house are practically excluded and with them the danger of bacteria containing particles being swept into the house. A recent investigation by Chapin of Providence, shows that in that city typhoid fever shows no relation to an unsanitary condition of the drainage.† While indeed it is generally admitted that communication of typhoid by unsanitary drainage is exceeding rare, instances are reported which seem to point unmistakably to bad drainage as a source of typhoid. Cases of typhoid are occasionally reported where the patients succumb to typhoid, even when no other source can be detected than the escape of emanations from a privy-vault into a sleeping apartment.‡

*Karlinski. Centralblatt für Bakteriologie, Bd. VI, s. 71 and 72.

†Medical News, March 19, 1892.

‡Devalz-Baumgarten's Jahresbericht, 1887, p. 148. Hare's System of Therapeutics, Volume II, p. 278. Fereol—Annual of Universal Medical Sciences, 1889, Volume I, p. 16.

Some recent investigations of Bordas seem to show that currents of moist air can take up typhoid bacteria from water and carry them into the air. This, however, has not been confirmed so far as I know by any other observer. In conclusion it may be said that the communication of typhoid infection by water and milk is a matter of fact, but that communication by sewer air, fomites, vegetables and dairy produce is as yet only a matter of opinion. The evidence is by no means conclusive that sewer air, fomites and dairy produce are never sources of typhoid infection, but is pretty strong that these things are rarely sources of infection, and even though this is all that can be said, it is enough to justify us in demanding well-trapped plumbing in our houses and great cleanliness in the care of the typhoid patient.

The typhoid infection in milk does not come from the cow as there is no such thing known as bovine typhoid. The infection in the milk comes either from the hands of the milker, infected air, or infected water of the dairy. Dairy products differ from water and air, in that they usually furnish an excellent nutrient medium for the bacteria deposited in them, and consequently instead of the few original bacteria being a cause of infection we have a large vigorous culture of the germs.

The evidence of infection by milk is almost as conclusive as by water, Hart having collected the records of fifty epidemics traced to this source. But there is not, so far as I know, any record of an epidemic traced to vegetables and fruits which are eaten without cooking, such as celery, lettuce, apples, pears, etc. The typhoid bacillus will grow in almost any vegetable or animal infusion, cheese and infusion of French beans being the only food distasteful to it.*

In sterilized milk the bacillus grows well but less so in unsterilized.† Freshly milked milk is practically sterile and then would be the time when it would be most apt to be infected. Heim detected the typhoid bacillus in milk after thirty-five days from date of infection. In butter the typhoid bacillus has been detected after three weeks from date of inoculation.

*Hesse. *Zeitschrift für Hygiene*. Bd. V.

†Heim. *Arbeiten aus dem Kaiserlichen Gesundheitsamte*. Bd. V, s. 304.

If we admit that typhoid feces are infective and that the infective material is not destroyed by drying, we must admit that it can be carried around in clothing, and epidemics have been traced to this source; one is recorded as occurring in a German barrack. Soldiers who wore the uniform of some of their number who were sick with typhoid became soon affected with the disease themselves. The trousers of some were incrustated with fecal matter, no other source could be detected and a thorough disinfection of the clothes ended the epidemic. It has also been shown that the laundresses of the London fever hospitals are especially subject to typhoid fever.*

Having considered the means whereby typhoid fever is communicated we are now prepared to consider practically the means of prevention.

Bacteriology as yet furnishes no hope of obtaining a protective albumose or vaccine to prevent typhoid and it may never furnish one, but a vaccine is not demanded if ordinary precautions are taken to prevent the disease. The soil is too uncertain to lay much stress on. It is much easier to kill the germ outside the body than to render the bodily condition such that it will not be infected after the germ has gained entrance. In general the soil is unfavorable for the development of typhoid where there is a certain amount of intestinal antiseptics, free movements of the bowels and little fecal matter resting in the bowel. These suggestions are all that can be given for rendering a person's body immune. But the more essential thing is the means of destroying the germ outside the body and preventing its entrance into the body, and this involves a consideration of the means of securing a pure water supply, pure dairy produce, sunlight and ventilation, good drainage and a proper care of the patient.

How a city shall obtain and keep a pure water supply is more a question for sanitary authorities than for the physician. There should certainly be a sufficient system of registration so that all typhoid cases can be located and a sufficient system of inspection to prevent the dejecta of any of such cases being thrown into a water supply, as was done at Plymouth. The question of a pure water supply is evi-

*Pepper System of Medicine, Volume I, p. 253.

dently one more of future than of present interest. There is one thing, however, the fate of which depends quite as much on individuals as sanitary authorities, and that is the open well. Proofs that open wells are sources of danger, suggestions of means to prevent their contamination, and conditions indicating a pure well water are subjects which cannot be considered in this paper. Not a few epidemics have been traced to wells, and now there is no excuse for building open wells in this day of driven and artesian wells, both of which in proper soil furnish sterile water, and are free from the dangers of surface drainage. The individual precautions which each one can take for himself, aside from these mentioned are using boiling or filtered water when there is much typhoid about. A good Pasteur filter as now made, furnishes a beautiful, clear, and in most cases sterile water. All other filters should be avoided. They not only do no good but are positive sources of infection, since most bacteria multiply in them faster than they do in water, and in one instance an outbreak of typhoid was traced to an infected filter.

Ice is liable to be a source of infection and the typhoid bacillus lives one hundred and three days in it. The only way to reach this difficulty is by an inspection of the sources from which the ice is gathered.

Infection of milk usually takes place in the dairy and not from the hands of the middleman, consequently the dairy is the place to which we should give our attention for prophylactic measures. It is evident that a system of registration would locate all cases of typhoid which exist in or near dairies, but we cannot shut up a man's milk business because he has a case of typhoid fever in his family. Injury to business from outbreaks of typhoid traced to milk would certainly seem to lead all who believe their milk above suspicion to court inquiry, while it would undoubtedly be opposed by all who were not cleanly. There should be a systematic inspection of dairy farms such as nowhere exists in this country but is enforced in England. There the cattle, their environment, the water supply, the methods of caring for the milk, of washing cans, the relation of all these processes to cesspools and privy-vaults—all these things are subjects of inspection.

Typhoid is not the only disease or the most important one demanding such inspection, but tuberculosis anthrax, and foot and mouth disease may be communicated to man and demand it quite as much as typhoid.

A system of inspection would do much good, especially as regards tuberculosis, but one is led to ask whether a system of inspection can ever reach personal uncleanness, whether it can ever prevent milking with dirty hands into a pail washed with contaminated water, whether it can prevent the farmer from allowing his milk to stand near a cesspool or privy-vault. Cleanliness about such matters (not cleanliness as ordinarily understood but bacteriological cleanliness) is something which people must be educated up to. There is, however, one way in which the quality of milk has been improved chemically, and that is by establishing a fine and giving authority to the director of the experiment station to condemn all milk falling below a certain standard chemically. This is a decided check on milk dealers selling watered milk. Why could not the same thing be accomplished by a biological examination—a biological examination would show how many bacteria there were in a cubic centimeter of milk and this would certainly be a good index of the cleanliness of the milker, of the purity of the air of the dairy, of the care taken in washing cans, of the quality of the water added, if any, of the presence of typhoid germs, and of the contamination during transportation. All milk should be condemned that contains more than a certain number of germs per cubic centimeter. Where, of course, we are uncertain about our milk it can be steamed or boiled, and thus all infectious matter destroyed, but in so doing we lessen both palatability and digestibility.

The last part of my subject, the care of the patient, is the most important one. Success in the prevention of typhoid will depend entirely on our success in the disinfection of the feces, urine and sputum of the typhoid patient, and anything with which they come in contact before they are disinfected. The infective matter of a typhoid patient is contained in the urine, feces and possibly sputum. In the feces, the typhoid bacilli are constantly found from the ninth day of the disease

to the twenty-fourth. None of these excretions should be allowed to dry up before disinfection, as dryness increases greatly the dangers of dissemination.

For disinfection of feces only the best disinfectant is good enough to use. A disinfectant should not be used because widely advertised and recommended by men of reputation, but should only be used when reliable proof is furnished. The value of a disinfectant can only be determined by a bacteriological study, and the bacteriological evidence, which is the only evidence worth anything, should be weighed and sifted. There are certain peculiar conditions which must be considered in regard to disinfection of feces, and these are a large amount of albumenoid matter which incase all bacteria and protect them from a disinfectant. Some disinfectants coagulate this albumenoid matter and thus apparently cover them with a tough impenetrable albumenoid coating; furthermore they tend to neutralize the disinfectant, changing it into a less active and less soluble disinfectant. These are the great objections to disinfectants for feces which are easily precipitated.

The only disinfectants for feces, which I deem worthy of mention are lime, chloride of lime, liquor soda echlorinatae, bichloride of mercury and carbolic acid.

Pure freshly burned lime and chloride of lime are so much more efficient as disinfectants for feces and so much cheaper than others that I can hardly conceive why any others should be used. Chloride of lime has probably been more thoroughly tested than any other disinfectant for feces and has less frequently been found wanting than any other. The last most thorough and conclusive paper on this subject which has been published is one by Nissen,* and his conclusions amply confirm all previous statements as to its value. It is cheap, quickly acting and efficient. Lime is also proving itself a valuable disinfectant. Karlinski has shown that twenty grams of freshly burned lime sterilize fifty C. C. of feces.† A comparative study by Richard has shown that lime added to feces in the proportion twenty per cent. is much more powerful as a

*Zeitschrift für Hygiene, Bd. VIII, s. 62.

†Centralblatt für Bakteriologie. Bd. VI, s. 74.

disinfectant than bichloride in the proportion of one to one thousand hydrochloric acid, or five to one thousand or even than five per cent. of chloride of lime. The powerful disinfecting properties of lime have been confirmed by Kitasato, Liborious and Pfuhl.*

In using the chloride of lime it is well to order half a tea-cupful of the chloride of lime to be thrown on each dejection, thoroughly stirred into it and then a pint of boiling water poured on it. The mixture should then be permitted to stand three hours before emptying. The same directions can be given with lime, except four times as much lime should be added as chloride of lime, to each dejection.

Bichloride of mercury is a less powerful disinfectant for feces, injures lead pipe and is one of those disinfectants whose power is neutralized by the albumenoid constituents of the feces. It is doubtful if an increase in the strength (within certain limits) of the solution used, would greatly increase its power, since the amount, unless very greatly increased, would not remedy the defect of lack of penetrating power. Carbolic acid, chloride of zinc, sulphate of copper are all decidedly unreliable. But even though this is the case, it seems to me that it would be a great gain if these were used in preference to certain expensive patent or proprietary disinfectants which are much used and are of comparatively little value. Many of these proprietary disinfectants may be ranked with sulphate of iron.

It is a misfortune that sulphate of iron ever obtained recognition as a disinfectant, certainly it is worse than useless, not only because it is a waste of money but because it gives a false sense of security.

All materials such as bed and body linen with which the excreta may come in contact should be soaked in carbolic (one to forty) until ready for washing, then they should be boiled. After each dejection the nates should be cleansed with paper and then a compress wet in carbolic (one to forty) should be placed over the genitals. If these precautions are taken it does not seem necessary to do more to the eating utensils than wash them in boiling water, neither need the room be disinfected.

*Medical News, September 7, 1889, p. 269.

But while our measures for disinfection may be the best, our efforts often prove futile because many of our patients are among the emigrants who come to our shores, who are ignorant of the first rules of hygiene and who often do not know enough of the language to appreciate the directions of a physician. Still more, disinfection as accomplished at present is faulty, and physicians have something to learn on this score. We need better facilities for teaching bacteriology—if each student were compelled before graduation to test certain disinfectants on feces, he would undoubtedly then appreciate how difficult a matter it is to accomplish a thorough disinfection, and he would gain a greater respect for the vitality and endurance of microbes. According to health reports the practice of disinfection throughout this State must be quite general, and physicians seem to do their share in preventing the spread of the disease, but in their absence, they cannot control inefficient and careless attendants from spreading infection and using inefficient disinfectants such as Platt's chlorides, or using the expedient even still less harmful to bacteria of placing dishes of carbolic acid around the room, as if the odor would drive away infection, while they neglect the weightier matters of the law such as a thorough disinfection of the dejecta and clean bed-and body-linen.

Summarizing my paper somewhat briefly then, my conclusions are that not only epidemic typhoid but also sporadic cases can be lessened by a thorough inspection of dairies and sources of water and ice supply; by the abolition of open wells; by the registration of typhoid cases throughout the State, by a more general knowledge of infectious diseases and biological cleanliness, by good drainage and by the use of the most efficient disinfectants.

CHLOROFORM.

BY E. P. SWASEY, M.D., NEW BRITAIN.

The occurrence of three deaths whilst under the influence of chloroform, in this vicinity, during the past three years, and my intimate relations to two of these cases, is my excuse for presenting this paper. I do not intend to give a scientific résumé but only to express some of my views on the subject. I think I am safe in stating, that there is no class of remedies, in the whole range of the pharmacopeia, that we employ with such certainty of precision as to desired results, and such small percentage of undesirable results, as anesthetics, and with no other remedies, when misfortune attends our efforts do we feel quite so deep pain and conflict of emotions.

Perhaps the greatest reason for this unhappiness is the sudden, unexpected and disastrous termination of a course which we intended, with our best endeavors, should result in the greatest good to our patient, and I venture to say that no one can quite appreciate the feelings of the physician, who has been so unfortunate as to lose a patient under chloroform. The relation of cause and effect is unmistakable and there is no evading the fact.

Since the time of its introduction to the profession by Sir James Y. Simpson, the use of chloroform has met with opposition, both professional and lay. The earlier opposition, however, was in the main, based on very different grounds than exist at the present day, excepting a few instances, notably France, and were moral and religious in character, and the opposition in this country, largely the result of rivalry growing out of the priority of the discovery of anesthesia.

The rapid spread of the use of chloroform into the domain of general surgery, aroused a new spirit of resistance and for better reason. Death had resulted from it, a result which had

not as then been attributed to sulphuric ether. The warfare waged against it was bitter, but its use extended and it became in England and on the Continent the established agent for the relief of surgical pain.

There is no need of referring to statistics to estimate the good which has been done by this wonderful drug, and the fatalities resulting from its use are but a small percentage of cases where it has been administered. I do not know what statistics would show if all the unfavorable results were reported, since chloroform was first introduced, but I am inclined to think that the statement of a writer on this subject is not far from the correct view. He says: "Those who have carefully studied the subject are firmly convinced that if the mortality of each agent, with the number of administrations, were accurately known, there would be but little difference. The difference between the mortality of chloroform and that of ether is far from being as great as has been attempted to be shown. My conclusion is: chloroform is not as fatal, nor ether as innocent, as they have been represented."

Every physician knows that when a patient dies under chloroform the drug had a direct agency, if not wholly responsible, in the death, but when a patient dies twenty-four to forty-eight hours subsequent to the administration of ether it is exceedingly easy and convenient to ascribe the cause to other agencies. In regard to the use of ether I was led to believe, and did so believe until within a few years, that it was entirely devoid of danger to life, yet as I look back to my hospital experience I can recall a few instances, where I believe that death was the result of its use; but the evidence exists and is growing that under certain conditions and circumstances it cannot safely be administered. Renal disease has been stated as a contra-indication as well as pulmonary disease.

Operations about the upper part of the body requiring artificial light, unless it be electric light, renders its use dangerous, Especially is this so in private practice when the surgeon is called to operate and the best of light afforded is that given by a few oil lamps. The actual cautery, especially about the upper part of the body, is another objection to its use. As an

instance of the danger attending the actual cautery under ether, I will state that at such an operation I was performing on the forehead, an explosion of ether resulted. No harm came to the patient, but it was an exceedingly disagreeable experience and somewhat painful to the doctor who gave the ether. Since, then, there are valid objections to the employment of ether in certain cases, we are obliged to resort to chloroform, when cocaine and other anesthetics will not serve our purpose, or let the patient undergo the operation painfully conscious of our proceedings, in jeopardy of an amount of shock which might prove much more serious than the anesthetic, and very few patients now-a-days will undergo the mildest kind of an operation without something to make them unconscious. But the severe comments recently made upon chloroform, call for the courage of conviction in its employment, especially so if one is to be branded as a homicide if he should lose his patient.

Until the action of chloroform is perfectly understood, the way it destroys life must be theoretical and rules governing its administration must be more or less arbitrary. In support of this statement I have only to refer to the different methods advised by different authorities as to its administration. One advises the folded towel and states that after several thousand trials no fatality has occurred. Another recommends the cup-shaped sponge, denouncing the towel as absolutely dangerous, whilst another will advise some complicated apparatus which only the inventor can handle. As to quantity to be used one will state the exact amount, another will state that he uses it freely, and I may say that if quantity has anything to do with a death, then the first patient to whom I administered chloroform ought by all rights to have died. I never saw it used more freely, and although the operation was a prolonged and serious one the patient survived. As a preliminary to its exhibition, we are advised by some to examine the heart, the advisability of which I am inclined to doubt. Joseph Lister considers this a harmful proceeding and I cannot do better than quote his own words from his article on anesthetics in *Holmes' Surgery*. He says: "On the whole I believe that chloroform by preventing shock and mental effort during the

operation, as well as anxiety before it, is in reality a great source of safety in heart disease; and that if a person with known cardiac affection decides to place himself in the hands of the surgeon, so far from being unsuited for the anesthetic, he is before all others the man who stands most in need of its protecting influence." He believes in the effect of mental emotion acting upon a disordered heart, as provocative of death where the use of the chloroform was simply a coincidence. He cites a case where there was a pretence of giving the chloroform and the patient died of fright. He refers also to the only death he ever witnessed under chloroform, the autopsy showing extensive fatty degeneration. The patient was partially under its influence and felt the knife, as indicated by a start of the patient's body as the cut was made, and his looks upon the chloroform as "a preventive insufficiently used". In neither of my cases was the desire of an examination (post-mortem) gratified. The circumstances, excepting the fatty heart, were similar in my first case, an amputation of the foot for gangrene, resulting from ligature of the femoral artery and vein.

Autopsies, whilst they reveal in some instances heart disease, perhaps quite as often fail to throw any light upon the cause of death, and because heart disease is found it does not follow that chloroform was contra-indicated. On theoretical grounds alone that ether is safer than chloroform has the use of the latter been somewhat abandoned of late in England, but the superiority of the former has not been as yet made so manifest as to induce continental surgeons to give it up.

The quantity necessary to produce anesthesia cannot be predetermined with the accuracy given to the dosage of other drugs and for obvious reasons. Atmospheric conditions, state of humidity, temperature and motion, style of inhaler, proximity of latter to the face, are all to be considered in estimating the amount actually inhaled by the patient. Practically only a rough estimate can be given. The necessity for free admixture of the air renders accuracy on this point impossible. Estimation of the amount given is usually a guess and roughly decided by the depreciation of the quantity in the bottle and this, of course, is a crude method. The comparative ease with

which chloroform is administered, the freedom from vomiting and struggling, the usually small quantity required, its non-inflammability, cheapness, the speedy recovery from its effects, all render chloroform the more desirable anesthetic save for its alleged greater danger.

The necessity of the admixture of air with the inspired chloroform, shows that anything obstructing the entrance of air may prove fatal. Falling back of the tongue obstructs, and fatally, if not overcome, for if there is no air there is no respiration. Attention to the respiration, then, seems to be one great essential in administering chloroform. The falling back is not a sudden, but comparatively a gradual process and may be determined before it is complete, and when so the patient's condition becomes alarmingly urgent. Apropos of this statement was an instance occurring recently, and to me a most instructive one. The patient was a man beyond fifty, with chronic and destructive processes within and without the larynx involving the cartilages. The supervention of alarming dyspnea, and the incurability of the disease called for relief. Intubation had been unsuccessfully tried, and tracheotomy was decided upon with the full consent of the family. A discussion among the three physicians as to the anesthetic to be used, resulted in selecting chloroform. The friends were told that there was a certain amount of danger in the use of any anesthetic. After all preparations were made the chloroform was begun, with a handkerchief as an inhaler. It was carefully given to the point of complete anesthesia and just at this time, when relaxation was complete, carefully watching the patient's breathing, I noticed a sudden and rapidly spreading cyanosis. No time was lost in pulling out the tongue and the respiration went on again and the operation was successfully carried to its completion. Watching the pulse in this instance would have been the sacrifice of a life. The patient was simply choking to death and if that had occurred and a post-mortem had revealed heart disease the case would have been cited as another instance of the improper use of chloroform. I do not know whether he had heart disease or not. He was already too excited before the operation to add to it by an examination.

Although I have stated that rules are more or less arbitrary, there are those based on practical experience which should be followed in administering chloroform. I quote another writer on this subject for the first rule: Never give chloroform to a patient who has once acted badly under its influence. This advice seems so wise that it needs no comment. Always consult in regard to the anesthetic, etc., as well as the operation to be performed. To some this suggestion may seem absurd, but to one who has had unfortunate experience with this drug, I am inclined to think that it will seem eminently proper. This can easily be done in all cases except certain emergencies, for it implies that two or more should always be present whenever chloroform is given, that the operator should have nothing to do with the anesthetic, and likewise the administrator have nothing to do with the operation.

A large percentage of deaths from chloroform has been in small operations and very likely where the operator has also attended to this most important adjunct to the operation. With attention divided between the two, he would very likely overlook the first indications of danger and only recognize the condition of the patient when it was too late. Under such circumstances it seems wrong to throw the blame upon the anesthetic. It was improperly used and like any edged tool likely to do mischief in mishandling. Even in minor obstetric operations, where chloroform is generally conceded to be safe, I consider it far better to have an assistant for this purpose.

As to the inhaler, I can only say that the cup-shaped sponge seems to me more rational and safe than any other. It is easier to handle than a towel and certainly will permit of a readier admission of air. The strength of the vapor can be most readily determined by the one who gives it by first applying it to his own nose. It should not be so strong as to excite coughing and the application should be as uniform as possible. It is hardly necessary to state that, in view of deaths in the dental chair, the patient should always be in the recumbent position and all constrictions removed.

The article should be of the best, contained in small bottles and I think there is none better than Squibb's. If it is desirable to watch the pulse it can be done at the temporal, but for

reasons already given, I believe it far more important to note the inspiration with both eye and ear. Smearing the face of the patient with vaseline will, perhaps, save more suffering to the patient and annoyance to the one who gives the chloroform. This is the only objection to the sponge, in my opinion, for unless it is very carefully watched the liquid will work its way down to the edge as shown a few hours later on the patient's face and neck.

With the approach of alarming symptoms remove the chloroform, draw out the tongue and keep it out until the danger is passed, whilst another may resort to artificial respiration. Inverting the patient is only another and inferior way of removing the obstructing tongue. Alcohol has recently been denounced as adding to the dangers of chloroform narcosis, but my humble opinion is that this idea is the result of misapprehension of the real conditions causing death. If the real danger be in an obstructed respiration, then remedies applied to stimulate the heart would be misdirected. In this condition, approximating death, the circulation is terribly enfeebled, and consequently the alcohol is very slowly absorbed, if at all. I do not believe it hastens the restoration on the one hand or death on the other. The only harm it may do, is by diverting the attention from the true seat of trouble, the dislocated tongue.

In concluding this brief paper, I cannot help referring to the effect produced upon the public by the kinds of death of which I have been speaking. People are slaughtered at our grade crossings, whirled around the shafting in our factories, they are mangled and roasted in frequent train-wreckings, the law sanctions the sale of poison through the agency of the rum-seller, just as fatal as chloroform, more slowly to be sure, but far more reaching in its evil effects. These deaths are preventable, have become so common that they attract but little attention, and the death from chloroform is in reality so rare that when one does occur it is a novelty which the eager reporter seizes upon with avidity and spins out a distorted account in the newspapers. We cannot help this for it is natural for him to do so. It is deplorable, however, when one of our profession resorts to the columns of a sensational

or any other newspaper, to criticize the conduct of one who, by long years of faithful work, has earned not only the respect and esteem of the profession, but the public at large. In these days of prolific medical publications there is ample opportunity for the expression of one's opinions in the proper channels and no excuse for resorting to the newspaper to prejudice the public, if not against an individual, surely against one of the greatest blessings suffering humanity has ever known.

Dr. M. M. Johnson discussed Dr. Swazy's paper as follows :

In discussing the relative merits of chloroform and ether, we have three recent and most satisfactory sources from which to draw our information :

First—The report of the Hyderabad Chloroform Commission by John G. McKendrick, M.D., Professor of Physiology in the University of Glasgow, Joseph Coates, M.D., Pathologist to the Western Dispensary of Glasgow, David Newman, M.D., Surgeon to the Western Dispensary of Glasgow ;

Second—The Scientific Grant's Commission of the British Medical Association, on the experimental investigation of the action of chloroform, by John A. McWilson, M.D.;

Third—An address on anesthetics by H. C. Wood, M.D., LL.D., read before the International Congress at Berlin in 1890.

These reports are the results of the most careful scientific investigation, conducted by men of great experience and ability, with every facility to conduct the same. The unanimity of their results, establishes beyond a doubt the relative safety and value of ether and chloroform.

The deductions of the Hyderabad Commission are as follows :

"The experiments which we have given show that chloroform acts as a powerful depressant poison upon both respiration and circulation, that sometimes the influence is most felt at the heart and death results from cardiac arrest ; that in other cases the drug paralyzes the respiratory centers, while in other instances it seems to act with equal force upon both the medulla and heart, and so far as practical medicine is concerned, it makes little difference whether the heart stops just before or after respiration."

Dr. H. C. Wood denounces the use of chloroform in unmeasured terms, remarking on the latest statistics by Dr. Lawrence Turnbull, which gives three hundred and seventy-five deaths reported by chloroform and fifty-two by ether; the ratio of death from chloroform is from three to five times that of ether. He says he doubts if one third of the deaths from chloroform are reported, as the pressure to conceal deaths from chloroform is greater than those from ether. The surgeon who uses ether feels that he uses the safest anesthetic, and that he will receive no blame if death occurs from it.

The Scientific Grant's Commission of the British Medical Association goes carefully over the long list of experiments, and arrives at the conclusion that chloroform is from three to five times more dangerous than ether.

Here, gentlemen, we have the most recent and exhaustive investigation upon the subject of anesthesia; two of the commissions viewing the subject from the British standpoint, and naturally their prejudices would be in favor of chloroform. Their investigations, however, lead them to the conclusion that chloroform is from three to five times more dangerous than ether. When we have so unanimous a conclusion from three eminent sources, it should put the question of relative safety beyond a doubt.

ETHICAL.

The ethical relations of the subject, especially at the present time, are all important. This relation is too often overlooked in our deliberations when together assembled. "Ethics is the science which treats of the nature and laws of the actions of intelligent beings;" these actions being considered in relation to their moral qualities.

Medical ethics would mean our code of laws which define our obligations to each other and the moral quality of our actions. The more rigidly we adhere to ethical relations, the more shall we respect each other and be respected in the community in which we practice the healing art.

When a brother practitioner is the subject of an accidental misfortune in the loss of a patient under chloroform or other-

wise, he naturally feels that he needs the sympathy and support of his brother practitioners. This sympathy and support should be extended to him; his misfortune should become our misfortune, for we cannot tell how soon we may be placed in the same position.

As scientific men whose calling brings us into the most intimate relations to the best elements of the community in the most trying hour of affliction, we should be above personal bickering over the misfortune of a brother practitioner; much less should we be seeking opportunities to intimidate and annoy our fellow tradesmen.

MEDICO LEGAL.

In all the affairs of life we are required to use ordinary diligence, care and skill in all our doings. When a person has used ordinary diligence, care and skill, no blame can be attached to his doings. For instance, a man is allowed to drive at an ordinary road-gait and is not liable for accidents that may happen if the ordinary precautions are observed.

Now in the use of an anesthetic the patient is entitled to ordinary diligence, care and skill, that he may have a fair or ordinary chance for his life.

First—The safest anesthetic should be used.

Second—If it is for an operation by appointment, a properly qualified physician should be present to administer the anesthetic; all the conditions of safety and skill should be carefully attended to. If under these circumstances the patient should die, no liability could be attached to the operator.

But if the surgeon attempts to both give the anesthetic and operate at the same time, except in extreme emergencies, he does not give the patient an ordinary chance for his life, and in case of death the surgeon would be liable.

Next, the selection of the anesthetic.

From the investigations cited it is evident that chloroform is from three to five times more dangerous than ether. Hence, when chloroform is used the patient's chances for life are diminished in the same ratio. Now if we combine the conditions of giving the anesthetic and operating, also selecting the most dangerous anesthetic, it is evident that in case of death

under these circumstances the surgeon would render himself liable because he had neglected the ordinary diligence, care and skill, to which his patient is entitled.

COMMISSION ON ANESTHESIA.

Out of the heated discussion between Dr. H. C. Wood of Philadelphia, and the members of the Hyderabad Commission, as to the relative safety of ether and chloroform as anesthetics, is likely to come some good results. Owing to the imperfect statistics it is impossible to fairly decide the question.

This difficulty has led to an inquiry on a large scale which is to be made in the hospitals in Great Britain during the year of 1892, regarding anesthetics. "Eminent surgeons, anesthetists and general practitioners will contribute their clinical experiences, as supplemental to the conflicting results obtained by the experimental workers. The research will be made under the auspices of the British Medical Association. An influential and fairly constituted committee has charge of the plan of the inquiry, and record books have been prepared for the use of those who are willing to coöperate. These books have been carefully drawn up so as to secure uniformity on the part of the reporters and they contain full instructions." Mr. Jonathan Hutchinson heads the committee, which contains the names of the best known men among the English surgeons. A similar action is being taken by eminent surgeons on the continent. It would be highly proper to adopt some such measures in this country.

THE ACTION OF DRUGS UPON THE PROCESSES OF NUTRITION.

BY O. T. OSBORNE, M.D., NEW HAVEN.

It is with all due respect to the magnitude of the subject which this title suggests, that I offer the few thoughts that follow, but the mite which each clinician adds, or the channels into which the clinician leads the thought of scientific researchers, are often of much future value.

This line of research, this suggestion of the all-importance of nutrition, and the manner or mode in which a given disease causes perverted normal assimilation and mal-nutrition, seems to me to be the key to advance therapeutics.

Our anatomists are constantly giving us more and more exact histology of the stomach and intestines; our physiologists are telling us more and more of the processes of nutrition; our pathologists and bacteriologists are learning more and more of germs in general and of a few specific germs, positive causes of given diseases; also they tell us of the wonderful natural powers of the system, of the provision during health for the killing or rendering inert of these poisonous germs.

Little by little are discovered the various organs or secretions of the body, which render harmless the various discovered bacteria. We are learning more and more of the products of these germs, of the various poisonous products of alimentary decomposition, more and more of the protective powers of the liver in absorbing, or changing, or rendering inert the poisons in the blood passing through it.

We are also learning that a diseased condition of the body renders more or less inoperative this normal protective power. A diseased organ throws more work upon some other organ, and the work of the body is not performed as well, hence

germs and products before present and inert are now present and noxious.

Though specific germs have been found, though pathology teaches us of exact processes, do we have marked better success in treating a disease than before? Are we able to cope with the germs in the body as we can out of it? No. Is it not a fact that it requires stronger drugs and stronger doses than we can administer, to kill the germ? The question then arises, with all our boasted knowledge are we on the right track? Yes and no. Let us rather seek for the secretion or cell that normally kills a given germ, and render its power greater if possible, or at least remove all restraints to the exercise of that power.

As far as discovered, we have principally as death-dealing agents to germs in the body, the acids of the stomach, the blood-serum, the liver and the leucocytes, the latter embodying the process of phagocytosis. If we know the particular one of these agents that acts upon a given germ or its products, we should further, if possible, its power, at least not impede it. If we do not know which particular organ or secretion is the stayer of of this disease, then we must promote the general nutrition, which tends to promote all of these agents and render active all of these processes.

Except in the few instances of known specific remedies for given diseases, clinicians find that most acute diseases are self-limited, that their course is not much affected by any medicine. They also find that chronic organic disease is not much, if any, stayed or limited by drugs. No one of these physicians, however, but will acknowledge that general treatment, hygiene, dietetics, environment, etc., i. e. in a word, nutrition, is a strong factor in holding the acutely sick till the stage of defervescence, or staying, or at least slowing the chronic organic disease. Now do not understand me to say that a large class of physicians believe that drugs are valueless, for in this day of physiological action no one can under-estimate the value of a medicine which relieves a troublesome or dangerous symptom by its physiological action. But I do mean that, for most of our diseases, no one given drug is above all others in the treatment of the disease, and one

lauded treatment of a given disease with a long list of statistics of good results, is no better than another list of good results with another lauded treatment.

We must, then, turn to some other agent than our prescriptions of drugs as the cause of the cure of our patients. This cause seems to me to be nutrition. How frequently we feel, yes, know, that if we can hold our patient's failing power for a few hours or a few days more, convalescence will set in and our patient will get well. Hence in the acute fevers, our first thoughts should be the care of the stomach. We should first thoroughly clean out the bowels with a purge, best with calomel on account of its power to check intestinal putrefaction. While satisfying the thirst with copious draughts of water, we encourage freer action of the kidneys. Directly after the nourishment is taken in these fever cases, care must be taken not to dilute the contents of the stomach with water, or to administer any drug that will interfere with the digestion of that nourishment. Tissue-waste must be prevented by alcohol; and nerve-strain, and consequent tissue-metabolism, must be checked by morphine or one of its congeners. Vomiting is best checked by ice internally, and epigastric sinapisms. As the gastric juice, both in quantity and proteolytic power, is diminished in all fevers, nourishment should be given in small quantity and generally at three hour intervals.

Again, in chronic disease, the nutrition is the key note to the treatment; over-nutrition, if I may be allowed the term, for neuralgias and functional nervous troubles, as melancholia, neurasthenia, chorea and even tuberculosis; modified nutrition for diseased kidneys, diabetes, rheumatism and dyspepsia. To be more particular, the treatment of tuberculosis is, par excellence, a problem of nutrition. Any treatment that increases the nutrition and body weight in tuberculosis, is at least temporarily successful. In diseased kidneys, the advantage of the milk diet, at least during an uremic attack, cannot be questioned. During this condition, we not only seek to eliminate from the body all poisonous principles remaining in the blood, but by a milk diet, allow the minimum amount of urea-forming products to enter the blood. In true diabetes, where sugar remains in the urine, in spite of any treatment,

dietetic or otherwise, I believe we do wrong in absolutely withholding sugar and carbohydrates. By recent investigations, Dr. Graham Lusk, Instructor in Physiology at Yale Medical School, found that "The omission of the carbohydrates in the food brings about a marked increase in the proteid decomposition; the burning carbohydrates serve to protect a certain amount of proteid matter. * * * It seems in the highest degree probable, that the non-burning of carbohydrates is the cause of the great loss of flesh in diabetes". He thus states the facts, but does not draw the practical inference that seems to me should be drawn, that the large amount of sugar in the urine of diabetic patients, receiving no sugar, raises the question of not only that the sugar is obtained at the expense of the body and by the result of an exhaustive metabolism, but also the question, could we not well supply some of that sugar for the burning in the system? The head symptoms of diabetes, I believe, are many times due to the products of indigestion, decomposition and kidney impairment, brought on by the excess of proteids ingested, to supply the needs of the body without carbohydrates. The kidney is then forced to get rid of an excess of bye-products and soon nephritis is caused. Hence, I believe in supplying carbohydrates, in possibly limited amounts, to diabetic patients.

In subacute rheumatism, care should be given towards modifying the diet. It has been experimentally proved that the more completely the diet is animal proteids, the greater is the acidity of the urine, and in all probability the less the alkalinity of the blood. Here is, then, an indication for the withholding of meats (animal nitrogens), and the assuming a diet of vegetable nitrogens, as beans, peas, etc. The condition of either gastritis or dyspepsia has so many causes which must be treated at the same time that a local treatment is instituted, that time will not permit me even to enter upon its discussion.

Before discussing the action of a few of our most used drugs on the nutritive processes, allow me to recall briefly a few aphorisms relating to the alimentary tract. Increased flow of saliva not only increases the amylolytic action on the starch in the first food taken into the stomach, but also in-

creases the flow of the gastric juice and thus aids the digestion of the proteids. During the secretion of the gastric juice, the blood-vessels of the stomach are dilated, and there is an increased flow of blood to the stomach, hence the dyspeptic should be cautioned against the use of brain or muscles immediately after a meal. The flow of the gastric juice is unquestionably more or less influenced by nervous conditions and sensations, a fact not to be lost sight of. During the pancreatic digestion a bye-product, indol, very easily appears, giving a fecal odor and due to decomposition by the action of organized ferments. Antiseptics, as salicylic acid or salol, will prevent the formation of this body. If there is putrefactive decomposition going on in the intestine, the pancreatic digestion is interfered with, leucin and tyrosin are formed in large amounts, and, therefore, fewer peptones for the use of the body are formed, while more work is thrown upon the kidneys in excreting these products of leucin and tyrosin.

Lauder Brunton's discussion of the action of the liver furnishes the most food for thought and presents the known facts the most tersely of any article that I have read, and I, therefore, quote him largely.

The liver has the power and function of destroying the poisonous properties of peptones and other poisonous products produced during digestion, and possibly also, poisonous products of tissue-waste. The peptones are converted by it (the liver) into sugar and glycogenic substance. The liver also destroys the poisonous properties of some vegetable alkalis. Nicotine, morphine, cocaine and hyoscyamine, are all less poisonous after passing through the liver. Curare and atropia do not have their action modified.

Brunton suggests that the languor and weakness, which occur in many cases of indigestion, may be due to the effect of poisonous substances absorbed from the intestine. These substances may be peptones or ptomaines, and the function of the liver is probably to render them inert before reaching the general circulation, but an impaired liver action, or an increased amount of these products formed, may cause them to reach the brain.

The liver not only forms new bile, but also re-secretes the

old bile which has been re-absorbed from the intestine. A certain quantity of bile is lost in the feces, but a considerable portion of it seems to be utilized again and again; being formed by the liver, poured out into the intestine, re-absorbed and again excreted. Not only is bile re-excreted in this manner by the liver, but other substances also, such as many medicines and poisons. Movements of the diaphragm increase the expulsion of the bile from the gall-bladder, and this is increased by brisk exercise, rowing, riding, etc.

Contraction of the stomach with a dilation of the cardiac orifice, causes ejection of gas and often small quantities of fluid or food (pyrosis).

Ejections of chyme from the stomach through the pylorus begin generally in from one to two hours and last from four to five hours, generally leaving the stomach empty. (Foster).

In many cases of flatulence, the gas arises from a fermentative decomposition of the sugar which has been taken as such in the food, or which has been produced from the starch, the gas being either formed in the stomach or passing upwards from the intestine through the pylorus.

Diarrhea may be due to three causes: To excessive peristaltic action whereby the contents of the intestine are hurried along before time has been allowed for their absorption; to diminished absorption; or to excessive secretion.

Constipation may be caused by diminished secretion, or decreased peristaltic action, or both, and may be associated with accelerated absorption. Brunton thinks that diminished peristaltic action is probably the most frequent cause.

Thirst is due to two causes: Either to dryness of the throat owing to a decreased flow of saliva; or general thirst, due to a diminished amount of water in the circulation. The former is relieved by gargling or sipping of water or any other bland drink. The latter is only relieved by the ingestion of large amounts of water. Hence anemic patients may drink water in large amount, thus diluting the stomach contents and the blood, when sipping of water would quench their thirst.

A mild irritation to the stomach membrane in normal conditions will produce a flow of gastric juice and an increased appetite. A strong irritant stops the flow of the gastric juice,

causes the secretion of mucus, and produces nausea and vomiting. If the stomach mucous membrane is inflamed, even a mild irritant, as a weak, bitter tonic (efficient for loss of appetite in a not inflamed stomach) becomes an aggravation and nausea is produced. Hence, even the first mouthful of food taken into an irritated, hungry stomach, may cause nausea.

With this aphoristic résumé of a few factors that we often forget in treating disease, the question for us to decide is, how can we improve or modify the nutrition in a given case? Have we in this case diarrhea or constipation, and if either, from what cause; is there a dilated stomach with food stagnant in it from lack of muscular power, or are we liable to get that condition by improper feeding or medication; have we a disturbed blood supply to the alimentary organs, venous congestion, or local anemia; is the gastric juice deficient; is the hydrochloric acid secreted too early or too late, or not at all; is mucus so profuse as to interfere with the secretion of the digestive fluids; is the secretion of the bile deficient; is too much work thrown upon the pancreatic juice; is gastric or intestinal fermentation very much greater than normal; are bye-products formed in the intestine in such excess that the kidneys are becoming over-worked; are ptomaines becoming so abundant that the liver cannot render them all inert; and, lastly, are we getting auto-infection from germs in the intestine? All of these questions must or should be considered while treating the disease that our patient is suffering from, and in correcting these faults we will increase the nutrition of the body, and thus aid in eradicating the disease.

In studying the necessity for promoting the nutrition in the various diseases, we naturally turn for our aids to hygiene, dietetics and materia medica, and the last of these factors is the one that will claim our attention for a short time.

In the following classification of drugs according to their effect upon assimilation, I have largely followed Lauder Brunton.

For the object of this paper, it is necessary to note the action on the digestive system and on the general nutrition, of only such drugs as are in most common use. The drugs which act on the digestive system must first be roughly

divided into those that promote absorption and digestion, and those that delay absorption and digestion; generally speaking, the promoters and interferers of nutrition.

First, the promoters of digestion. These are Sialagogues and the promoters of amylolytic action; gastric tonics and promoters of proteolytic action.

Sialagogues: It must be remembered that anything masticated or even turned over in the mouth, will cause an increased flow of the saliva, and that the amylolytic process goes on in the stomach until free hydrochloric acid, or a large amount of acid peptones is formed. Hence, amylolytic action may go on in the stomach (according to Professors Chittenden and H. E. Smith) for from thirty to sixty minutes or more after food has been taken; hence diastase of malt, or anything that increases the flow of the saliva, will aid the digestion of the starches in the stomach until free acid is formed. Among the stimulants to the flow of the saliva may be mentioned: pilocarpine, physostigma, ipecac, all compounds of iodine, mercury in all forms, acids, alkalies, pungent substances, such as tobacco, rhubarb, cubebs, and most nauseants.

The iodides, potassium iodide especially, are, after ingestion, in considerable part secreted in the saliva, are again swallowed, and so keep on in continuous round, being thus constantly present in the saliva for some time after the dose was taken.

ACTION OF DRUGS ON THE STOMACH.

In considering the action of the drugs upon the stomach, three factors must be borne in mind, viz: the action on the secretion, on the movements of the stomach, and on the absorption. Any gentle mechanical or chemical irritation causes the flow of the gastric juice. Soups, toasted bread, and the first peptones formed, are stimulants to the gastric secretion. In atonic dyspepsia, the meal should not be commenced with a copious draught of tea, coffee, or water, as is so often done, but with some solid food. A dilute alkali, as Vichy, or other alkaline water, or even a small amount of the bicarbonate of soda, taken just before meals, is a powerful promoter of the acid secretion, which secretion is soon sufficient to render the whole stomach contents strongly acid. An

increased flow of saliva acts in the same manner as any other alkali, and this normal gastric stimulant should be encouraged by properly masticating the food. In small amount, alcohol is one of the most powerful stimulants of the gastric juice, its slight delaying action in digestion being much more than overcome by the increased flow of gastric juice.

The vegetable bitters are beneficial in dyspepsia, both increasing the appetite and the flow of the gastric juice. Strychnine also increases the appetite. Jaborandi and ipecac increase the flow of the gastric juice. Nux vomica and most bitters, also physostigmin and digitalin increase the stomach contractions. The carminatives, tartar emetic and apomorphine also modify and increase the stomach movements, the latter even without causing vomiting.

The Interferers of Digestion: The drugs which diminish the secretion of the saliva, antisaliacs (Brunton) are principally borax and potassium chlorate by relieving irritation, physostigma, in large doses, by lessening the blood-supply to the glands, but above all, atropine, which paralyzes the peripheral terminations of the secreting nerves.

According to Professor Chittenden, nearly all of the metallic salts diminish the proteolytic action of the gastric ferment quite decidedly, even a few hundredths of a per cent. as a rule, producing a noticeable effect. Such are copper sulphate, lead acetate, corrosive sublimate, mercuric iodide, zinc salts, manganese and iron, all more or less retarding the digestive power of pepsin.

Iron salts retard the action of the ferment much more than the corresponding salts of manganese. Calomel has no action on the ferment. This above action, Professor Chittenden says, is due in part to a direct action on the ferment, and in part to a combination formed by the metal with the proteid to be digested.

Arsenious acid increases the proteolytic action of the pepsin, and thus increases nutrition. Potassium permanganate greatly slows and diminishes the proteid digestion, as do also potassium chlorate, borax, sodium chloride, potassium chloride and ammonium chloride. Sodium chloride in small amount, however, has a noticeable accelerating action on the ferment. The

sulphates of magnesia and soda likewise retard the action of pepsin, even .005 per cent. having a noticeable effect.

Nearly all the alkaloid salts have more or less of a retarding action on pepsin. Thus strychnine, morphine, quinine, cinchonine and atropine sulphates all reduce the action of the ferment, morphine sulphate less than the others. Professor Chittenden says, as sulphates retard the action of pepsin more than nitrates, and the latter more than chlorides, the inference is clear, to use where we can the chlorides of the alkaloids. In large amount, beer, wine and stronger spirits all retard the peptic digestion, and even sugar, both cane and grape, temporarily retards the pepsin digestion. Soda water, carbonic acid water, moderately strong infusions of tea or coffee, and water in ordinary amounts, were all found to have no appreciable influence on gastric digestion.

Sodium salicylate, in full doses, retards pepsin action greatly. Chloral hydrate in dose of one gram does not retard, but in larger doses it does retard digestion in the stomach. Antipyrin and antifebrin both retard the pepsin digestion. The stomach movements are lessened by chloral, urethan, morphine and by large doses of arsenic, nicotine and pilocarpine. (Brunton).

The secretion, peristaltic action and absorption from the stomach are all greatly influenced by the conditions of the circulation, and no factor affects the circulation of the stomach as much as a retarded flow in the liver. All of the venous blood from the stomach must go through the liver and an obstructed flow there, either due to organic liver disease or passive congestion, or hyperemia from valvular cardiac disease, retards the flow of the venous blood from the stomach. Consequently there is impaired absorption from the stomach, and sooner or later a chronic gastritis, with its attendant mucus and diminished secretion of gastric juice, appears. In this condition purgatives and cholagogues, by clearing out the intestines and stimulating the liver, act indirectly as gastric tonics. Excessive acidity may be present in the stomach, intestine or urine, and require treatment by either direct or indirect antacids.

ACTION OF DRUGS ON THE INTESTINES.

A trace of peptones (Brunton) in the blood, supplying the intestine, nicotine, physostigma, ergot, cocoa, cocaine and strychnine, all cause increased peristalsis. Lead also causes increased peristaltic action, and the colic due to it has been thought to be a spasm of the intestine. But, according to recent investigations made by Professor Bokai of Buda Pesth, the constipation and colic due to lead poisoning, is due largely to diminished intestinal secretion. Atropia diminishes the intestinal movements. Opium causes a cessation of peristaltic action and checks the secretion in the intestines. Ipecac probably increases the intestinal secretion. It has been suggested that diarrhea, many times, may be due to diminished intestinal absorption, and the indication for treatment would be to increase the blood-flow. Calomel does not affect the pancreatic proteolytic ferment, but prevents the formation of putrefactive products, as indol, scatol, etc., although leucin and tyrosin, which are normal products of pancreatic digestion, are still formed.

Salicylic acid and salol probably act in the intestine, as does the calomel. Calomel is passed into the intestine unchanged, but is decomposed by the alkaline juices and dissolved by the fatty matters there present. At times a small amount of calomel may, in the stomach, if an excess of hydrochloric acid is present, be converted into corrosive sublimate. Hence it is best to combine the calomel with sodium bi-carbonate.

ACTION OF DRUGS ON THE LIVER.

In considering the action of drugs on the liver we must make a distinction between hepatic stimulants, or the promoters of the secretion of bile, and cholagogues, or those drugs which remove the bile from the body. Briefly, hepatic stimulants are: Ingested food, aloes, corrosive sublimate, salicylate of soda, euonymin, podophylin, colocynth, ipecac, and probably best of all, fresh nitro-hydrochloric acid. The glycogenic function of the liver is destroyed by phosphorus, arsenic and antimony, if taken in sufficient dose or for a long time. These drugs also tend to produce a fatty degeneration of the liver. Rhubarb, iron, copper and manganese appear in the bile, and

probably all heavy metals pass chiefly out of the body by this channel. (Brunton.)

To get good results from a hepatic stimulant, we must follow it up with a saline purge, else the bile remains in the intestine long enough for some of it to be re-absorbed. Active purgation may reduce the amount of the secretion of the bile, by removing it so rapidly from the intestines that no bile is re-absorbed.

Ipecac, by lessening the tenacity of the mucus in the gall duct during duodenal catarrh, tends to aid the flow of the bile, and thus abort a jaundice. At the same time the ipecac stimulates the hepatic secretion, and thus increasing the pressure behind and lessening the pressure in front, aids the flow of the bile in the right direction. Atropine diminishes the secretion of the bile.

A WORD AS TO TISSUE WASTE.

The consumption and the elimination of nitrogen is decreased, in other words, tissue waste is prevented, by the sulphates of quinine and cinchonidia (Chittenden and Whitehouse), by tobacco, alcohol, cocoa, and antipyrine. Jaborandi causes a greater elimination of urea by the skin. Ammonium chloride, if given too long, or if in too large doses, debilitates the blood, lessening its plasticity and impairing its constitution by decreasing its solids (Wood). It increases all the solids of the urine except the uric acid; the urea is decidedly increased. Mercury in small doses is a tonic, but in larger doses it destroys the plasticity of the blood and alters its solids, hence its use in local inflammation. Large doses of mercury diminish nutrition and emaciate.

Iodine and potassium iodide, if given too long or if in too full doses, cause gastric irritation, or the iodic cachexia and ptyalism is produced. Both these drugs will sooner or later debilitate the system, though in certain conditions immense amounts are tolerated. D. D. Bryson Delevan has suggested the following method of administering potassium iodide:

Take ten drops of a saturated solution of potassium iodide in water (where one drop equals one grain), add a half teaspoonful of a good liquid pepsin preparation, then four

ounces of warm milk, and let this stand in a cool place for a short time. This junket disguises the taste of the potassium iodide, and, at the same time, gives nourishment to the patient.

Iron not only enriches the red blood-corpuscles, but stimulates the production of more red corpuscles. During the ingestion of it, the urea in the urine is increased.

Small doses of arsenic are tonic and stimulate both the appetite and the secretion of the gastric juice. Also, in small doses, arsenic checks the tissue-change and decreases the nitrogen waste.

In all cases of anemia, the blood should be examined. If there is a greater percentage of loss of its hemaglobin than can be accounted for by the decreased number of red blood-corpuscles, then iron is indicated. On the other hand, if the percentage of the loss of hemaglobin is not greater than could be accounted for by the diminution of the number of red corpuscles, arsenic is indicated.

Salicylic acid, and its salts, the oil of gaultheria, and salol, all increase greatly the elimination of urea and uric acid. All the secretions of the body are diminished by morphine.

The bromides, by the formation of hydrobromic acid, retard the gastric digestion, but, according to Chittenden and Culbert, increase the urea elimination and the urine.

In closing this already too long paper, let me urge, as the principal object of it, that more thought be given to the stomachs of our patients; that in selecting a treatment for a given case, the necessity for nutrition or altered nutrition be carefully considered.

We should also carefully consider the best time and best manner to give a given drug, knowing its action on the digestion. Irritant drugs that do not retard the stomach digestion, should be given directly after meals; irritant drugs that retard the stomach digestion, should be given as near the time at which the stomach empties its contents into the duodenum as we can estimate, at least not till two hours after meals.

Let us not give tablespoonful doses when a teaspoonful will do as well; nor a nauseating teaspoonful dose when a pill will do as well; nor, on the other hand, drop a capsule or a tablet of irritating substance into the empty stomach, to there slowly dissolve and irritate a localized portion of mucous membrane.

THE HISTORY OF EMPIRICISM DURING THE LAST CENTURY.

BY HORACE S. FULLER, M.D., HARTFORD.

At the beginning of the third century, B. C., Philenus of Cos, founded a sect or school of medicine called the "Empirics". They taught that experience and the observation of cases furnished the foundation of the "Science of Medicine", and thought that many coincidences in the use of remedies would enable them to form unalterable prescriptions for all similar cases. They rejected the study of anatomy and physiology and all theoretical reasoning.

It is true, that using the same remedies on many individuals gives basis for practical therapeutics; but the method must always remain uncertain and unscientific.

It is not known when or how the term empiricism lost its original meaning, but after a time it was applied to those who were destitute of all adequate knowledge of medicine; and the word is now synonymous with charlatanism.

The empiric is found in all ages. From the earliest times means have been used to restore the sick, suggested either by superstition, fancy, or the assertions of pretenders to some extraordinary influence or magic power unknown to others, and when persons so treated have recovered, the cure has been ascribed to the mysterious means that have been used.

Where fear and ignorance exist, superstition prevails. In the dark ages, when all diseases were supposed to arise from the wrath of the gods, deliverance from these diseases was sought by propitiating the angry deities. Sacrifices were offered, vows made, penance performed, and amulets and charms were worn with the hope of gaining the favor of such as presided over their special ills. For this reason also numerous remedies were used to appease the wrath of the

offended spirits, rather than for any medicinal virtues which they possessed. Precious stones were introduced into the *materia medica*, because from their beauty they were thought to be the residence of good spirits. At first they were worn as amulets or charms, but afterwards they were powdered and administered as specifics.

In those times the virtue which many herbs possess was attributed to the planet under whose ascendancy they were collected, rather than to any intrinsic properties of the plants themselves.

Fancy often suggested the use of remedies from their resemblance to certain organs of the body.

The great empiric Paracelsus invented the "Elixir Vitae", and administered it to hundreds to prolong their lives indefinitely and render themselves immortal, but died himself at the early age of fifty-eight with his famous Elixir by his side, and the delusion was doomed forever.

"The Weapon Ointment, and its twin absurdity, the Sympathetic Powder," are striking examples of the fallacy of popular belief and the uncertainty of asserted facts in medical experience. No less absurd were the Royal Touch and Bishop Berkeley's Tar-water, which show that the highest station yielded to delusion or deception, and that even the exalted character and profound learning of Bishop Berkeley did not save him from being drawn into the deepest folly. Dr. Holmes says "Berkeley was an illustrious man, but he held two very odd opinions; that Tar-water was everything, and that the whole material universe was nothing".

The condition of men's minds at the beginning of the present century was peculiarly fitted to embrace all forms of empiricism. Mesmer had excited the world by his remarkable control over the mind, and by his real and asserted cures. The Royal Touch had not yet ceased to be believed in. Galvani had astonished the world by his wonderful experiments in electricity, so that there was an unusual expectancy among the people, all looking and ready for new and almost miraculous cures from these novel and not yet understood mysterious forces. The time was right for any pretender to find innumerable followers from all classes of people.

I shall not attempt to follow the cause of the various popular remedies, which have been used during the past hundred years, but shall notice a few of the more prominent and fascinating *schemes* of empiricism that have taken a large hold upon the civilized world

During the latter part of the eighteenth century Animal Magnetism was engaging the attention of all Europe. Frederick Anthony Mesmer propounded the doctrine that the whole universe was pervaded by a subtle fluid, and that it was present in the human body. He claimed that it was magnetic, and could be communicated to other bodies, whether steel, stone or wood; in fact, to everything he touched, so that they would produce the same effect on diseased persons as the lodestone. At first he used magnets in the performance of his wonderful cures, but a few years later he met Father Gassner, who ascribed all diseases to diabolical agency and attested that Satan was the great enemy of mankind, who had power to shorten our lives by disease, and that this power could only be destroyed by prayer manipulation. This led Mesmer to abandon the use of the magnet and to claim that the force resided within himself and that by it he could influence others.

Not being well received in his own country he went to Paris and created the greatest excitement with his new system, which promised perfect restoration to health. The French government offered Mesmer twenty thousand francs for his secret, but he preferred his fees, and the rich presents which he received from those he treated. In 1784 the government appointed two commissions of inquiry, one from members of the Faculty of Medicine, the other from members of the Academy of Science, to investigate these phenomena, among whom were Benjamin Franklin and Bailly the astronomer. In their report they stated that this magnetism produced a variety of effects upon the patients; some were calm, others were thrown into convulsions which were preceded or followed by a condition of languor or reverie; a kind of depression and sometimes drowsiness, but all were under the will of the operator. It further stated, "that the sole proof brought forward in the support of the animal magnetism theory was the

effects it produced on the human body; that these effects could be produced without passes or other magnetic manipulations, that all these manipulations and ceremonies completely failed when tried without the patient's knowledge and that, therefore, the phenomena exhibited were the results not of magnetism, but of force of imagination."

After this exposure, animal magnetism fell into disrepute and Mesmer was denounced as a shallow empiric and impostor. He had acquired a handsome fortune, and in his old age returned to his native place Meersburg, where he died in 1815.

Mesmerism had, however, taken too strong a hold upon the people, and especially his disciples, to be easily given up. In the early part of the present century, one of Mesmer's followers, the Marquis de Puysegur, retired to his fine estate at Busancy. Here he pursued his investigations with the greatest interest and became the pioneer of mesmerism as now understood. Having magnetized his servant, who fell into a profound sleep, he questioned him and found that he replied readily and with clearness, and that when brought into closer communion with him he could control and converse with him at his pleasure, and was even able to convey his will to him without speaking or making any sign.

The Marquis attracted the people to his chateau for many miles around, and so numerous were his patients, that he was unable to obtain any rest or recreation. Remembering that he had heard Mesmer say that wood could be magnetized, he determined to magnetize a large elm upon the village green. He manipulated its trunk and magnetized its branches, so that streams of the magnetic fluid passed from the branches to the trunk and from the trunk to the roots. He then had seats placed around it and cords fastened to all the branches; the patient twisted the cords around the diseased part of the body, and held one another by their thumbs, so that a direct passage might be provided for the healing fluid. The Marquis took great pleasure in the success of his benevolent scheme, and one morning saw beneath this tree one hundred and thirty persons.

Among those who visited Busancy was M. Cloquet, the Receiver of Finance, who accepted these wonderful experi-

ments and says that the patients he saw in the magnetic stage were apparently in a deep sleep, "a sleep of the body, not of the mind", for the intellectual faculties were all on the alert while the physical faculties were in a state of suspended animation; the eyes were closed, the sense of hearing was abolished, the patient only awoke at the magnetizer's voice, "while in this hypnotized condition he possessed an extraordinary and supernatural power", could tell what part of the body was diseased by simply passing his hands over the clothes, and not only was the magnetizer able to make the mesmerized patient hear him, but by pointing his finger at him he would obey every movement. Upon awakening from his trance he would remember nothing he had done or said.

Here we have shown the phenomena which has passed under the name of clairvoyance, hypnotism and animal magnetism, which has appeared from that time to the present, but of some of them we shall speak later.

It is not suprising that the brilliant experiments of Galvani upon the nervous system should have awakened attention in this country, and undoubtedly it was this that first directed Dr. Elisha Perkins to invent the notorious "metallic tractors" known by his name. Dr. Perkins was born at Norwich, Connecticut, in the year 1740. He studied in the office of his father and commenced practice in Plainfield, Connecticut; he was a man of decided ability and intelligence and was said to be successful in practice. In 1796 he promulgated the discovery of his "tractors" or "pullers out of disease". They consisted of two pieces of metal, about three and one half inches long, shaped like spikes, flat on the inside and rounded on the outside, so that when fitted together they seem to make one apparatus. One was made of brass to resemble gold and the other of polished steel to resemble silver. They had no electrical power, but Perkins said they were made of a peculiar and wonderful combination of metals of great intrinsic value and extraordinary virtue. Dr. Worthington Hooker tells us that they were made in a small village near New Haven, for twelve and one half cents a pair and sold for twenty-five dollars. They were often enclosed in neat and elegant cases. These instruments were applied for the cure

of almost every malady, by being drawn backward and forward for about twenty minutes over the affected parts, and were said to be so powerful as to act through the thickest clothing. They rapidly gained in popularity and received the approval of many persons of high position; were recommended by the faculties of three colleges in the United States, Doctors of Divinity, Members of Congress, and a few physicians. In 1798 they appeared in London and attracted the widest attention. So great was their popularity that a "Perkinian Institute" was established with Lord Rivers for its president, and a large number of its members were from the titled and professional classes. The rich purchased them, not only for themselves but for their dependents. Perkins was everywhere hailed as the greatest benefactor of mankind. There were testimonials of more than five thousand cases that were cured by these wonderful tractors. Many of these certificates were from the highest sources, princesses, ministers of state, bishops, learned professors and wealthy laymen.

Soon the charm was dissolved. Doctors Haygarth and Falconer began experiments with tractors made of wood, but painted so as to exactly resemble those of Perkins. They obtained the same results with the wooden tractors and performed many cures upon persons who returned solemn thanks in the church for their recovery. Haygarth then made known his experiment. The genuine points ceased to cure, the Perkinian Institute closed for lack of funds; the sale of tractors gradually diminished and Perkinism died a natural death. Perkins returned to this country bringing a handsome fortune with him; but his empiricism was not ended. He invented a medicine for the cure of dysentery, sore throat and fevers. Being desirous of experimenting upon yellow fever, he went to New York in 1799, where he untiringly devoted himself to those suffering from this disease, but at last died of it in spite of his own remedy.

Preceding and during Revolutionary times there were few educated practitioners in the small country towns of New England. Under such circumstances practice was in the hands of root and herb doctors and old women.

In 1769 in the town of Alstead, New Hampshire, Samuel

Thomson was born, who was the author of a scheme which had the most vigorous growth, and found the most extensive and general acceptance of any empirical medical system in the early part of our century, and received the name Thomsonianism. Though Thomson was a strong character and of great determination, he scarcely received the rudiments of an early education, having (as he says) attended school for only one month. Through an old Mrs. Benton who doctored in his family, and for whom he gathered medicinal plants, he became acquainted with and took an interest in them, and tasted and tested the effects of lobelia upon himself. When a boy he had measles, diphtheria, scarlet and spotted fevers and small pox. He noticed and remembered the doctors' and nurses' directions and at the age of sixteen began to practice on others, at first after the manner of Widow Benton. He gave drinks first of one herb and then another to cause perspiration, but after a little he always commenced with lobelia. It was not until the age of thirty-six that he devoted himself wholly to doctoring. His advice to all was to keep the stomach warm and empty and the skin sweating. His system of treating all diseases was by universal rule.

We find in Thomson's book, published in 1819, entitled "Family Botanic Medicine," the principles upon which his system and methods of administering medicine were founded. He states that the constitution of all mankind is alike, and differs only in the different temper of the material of which it is composed. Earth and water constitute the solids of the body which is made active by air and fire. Heat is life and cold is death. A state of perfect health arises from a due balance of temperature of these elements. All disorders of the body arise from obstructive perspiration, therefore those medicines which are most efficacious in removing obstructions, and restoring equilibrium must be the best. Food and medicine are the fuel, which continue the fire or life of man and are in harmony, as they grow in the same field. The stomach is the receptacle for all food, and heat is kindled by its consumption and given forth to all parts of the body. When the stomach becomes foul, the body loses its heat and disease ensues. The medicines required are such as will raise and

retain the vital heat of the system, remove obstructions, promote perspiration, clear off the canker, and restore the digestive powers. These can only be found in vegetable substances.

Thomson's remedies were numbered and given according to the directions in his book. No. 1, Lobelia, to cleanse the stomach, overpower the cold, and promote a free perspiration. No. 2, Cayenne, is to be used to raise the inward heat. No. 3, Rosemary, Bayberry, Raspberry, designed to scour the stomach of canker and promote more free perspiration. If No. 1 does not "puke", coldness and acidity of the stomach is the cause; for which apply more freely No. 2, for the coldness, and pearlash dissolved in water as strong as it can be taken for the acidity. But if this fails of the desired effect and the medicine does not operate sufficiently, put the patient into a sweat by steaming over a pan of hot water, with a hot stone in it. Let the patient be wrapped in a blanket, and sit or stand over this steam as long as he can bear it. This with repeated doses of lobelia every fifteen minutes will be likely to afford him immediate relief. And so on to No. 6, rheumatic drops; which was myrrh. Besides these he had specifics, as bitters, cough mixture, and cancer plaster, the last made of clover. Thomson says that his medicines are variously compounded, and powerful; but innocent as powerful. "They are warming, opening, searching, penetrating, purifying, quickening and quieting, all these qualities they absolutely possess and are suited to the disorders of the human frame, whatever may be the name given to them." In an address to his fellow citizens, he says that as long as his life is spared, he shall never cease to cry out against the use of mercury, arsenic, niter, antimony, opium, and other deadly poisons, together with blistering and bleeding.

In 1813 Thomson secured a patent for his remedies which he sold with his book to individuals and families for twenty dollars. By this scheme everyone who purchased a right could forever dispense with all other medical means. He refused to treat any person who did not join his "Friendly Medical Society". His disciples increased rapidly and itinerant practitioners spread his principles and writings throughout the United States and into Canada. The income from the

sale of these rights, although equally divided between the agent and himself, soon gave him a large revenue. They boasted of their success and supposed that all legitimate medicine was forever doomed. Under this practice many sudden deaths occurred and Thomson and his disciples were arrested and imprisoned. Once Thomson himself was indicted for murder, but was acquitted on the judge's charge to the jury, that no evidence of malice aforethought was found, as he intended to cure the patient.

This wild delusion had reached its highest success about the year 1835, but having no foundation in truth it soon perished. Some of his followers returned to their former pursuits, some joined the "botanists" or some other new empirical practice.

Thomson was a bold, ardent and sincere enthusiast and inspired others with the belief of the final triumph of his system. He died in 1845 and Thomsonianism was buried with him.

If Thomsonianism went to the extreme in giving nauseous medicines, Hahnemannism on the other hand left abundant room for the "*Vis Medicative Naturae*". Hahnemann was educated as a regular physician, but was dissatisfied with the severe nature of the practice then in use. Instead, however, of attempting to correct the errors of his associates he threw everything overboard, and set himself to work to discover a system of his own. He published his first paper on the subject in 1796, and his great work, "*The Organon*", in 1810. The essential doctrines of Hahnemann were originally three: First—An idea which was suggested by Hippocrates and was expressed in the aphorism, "*Similia similibus curantur*"; in accordance with which a symptom produced by a disease will be cured by a small dose of a remedy, which, when given to a healthy individual, will cause the same symptom; Second—The efficacy of infinitesimal doses, which teaches that a substance becomes by trituration or dilution possessed of intensely active properties, which increase more and more with every dilution; Third—That most chronic diseases are caused by a humor, which, when it appears upon the surface is called the itch. Hahnemann further taught that every remedy must be given in its purity and uncombined with any other, as combi-

nations destroy the effects of the medicine and sometimes cause new diseases. A large number of inert substances become very active when prepared according to his directions. Disease should be recognized by a group of symptoms rather than by any name, and these symptoms must be minutely described by the patient himself.

All the doctrines of Hahnemann have been so thoroughly discussed and exposed by Doctors Simpson, Holmes, King and others; some of whose works are familiar to most of you, and all of you are so well acquainted with its present status, that it is unnecessary for me to go into detail concerning them. Suffice it to say that Psora, as the cause of all chronic disease has been forever disposed of by microscopic investigation and the discovery of the itch mite.

The absurdity of the doctrine of the infinitesimal doses has been exposed again and again by mathematical calculations and by innumerable experiments. Hahnemann says that the best dose is always the very smallest one, and never recommends any less than the thirtieth attenuation, and directs his followers never to use the lower potencies. He even speaks of using the sixtieth, one hundred and fiftieth and three hundredth. A Dr. Neevey of Paris, tells of a patient being cured of consumption by using the six thousandth dilution of sulphur. During the last of Dr. Hahnemann's life he became more devoted to high potencies and claimed that powerful results were produced by the olfaction of a quintillionth trituration of a grain of gold.

Dr. Simpson says "that all attempts to obtain physical proofs either of the activity, or even of the existence of the drugs said to be contained in the infinitesimal doses, have failed. Homeopaths have not been able to show by the highest magnifying powers of the solar microscope, by the magnetoscope, or by any other means, the existence of the smallest quantity of medicine in any of their preparations." He further states that there is no foundation whatever for the leading principles of homeopathy, "*similia similibus curantur*", except that which is grounded on gross perversion of medical facts.

Hahnemann and his associates studied the symptoms pro-

duced by drugs, by administering the substance on trial, and then noting every sensation and movement of the mind or body which occurred within many hours or days afterwards, and ascribed all these changes to the remedy taken. M. Andral, a professor of medicine in the school at Paris, who is spoken of in the "Homeopathic Examiner" as an eminent and very enlightened Allopathist, experimented with cinchona, aconite, mercury, bryonia, and other leading remedies; and after continuing these trials for more than a year, reported to the Academy of Medicine that they never produced the slightest appearance to the symptoms attributed to them. The testimony of a man of so philosophical a mind, of such liberality, candor and ability, ought to go far in deciding the question.

So this grand law of "Similia" cannot be a law of nature, as asserted. For a law of nature has no exceptions, and if exceptions be found to alleged law it is plain that the law is only an allegation and not a reality.

It is well known, also, that the leading homeopaths have abandoned all these principles, although they still have "Similia" for their watchword. This is proven not only by the observation of others, but also by the following resolution passed in 1878 by the New York Homeopathic Association: "We shall exercise and defend the inviolable right of every educated physician to make use of any established principle in medical science, or any therapeutical fact founded on experiment and verified by experience, so far as in his individual judgment, they shall tend to promote the welfare of those under his professional care."

The practitioners of this system are constantly decreasing in Europe as shown by their own statistics. And a leading Homeopathist in one of our large cities, when asked if Homeopathy was on the increase replied, Homeopathic practitioners may be, but the practice is not. Homeopathy, then, has nearly ceased to exist among educated physicians, and the name is only used as a trade-mark to deceive others.

The first Hydropathic institution was founded by Preissnitz in 1831, since which time many "Water-cures" have been established both in Europe and in this country. These insti-

tutions were for a time very popular, but they did much harm by the excessive use of this one element, which under scientific direction is so valuable. Its founder was so debilitated by his treatment that he died at the age of fifty-two with all the marks of decrepitude of an old man.

The worst we can say of the Eclectics is, that they offer a shelter and a taking name to all quacks and irregular practitioners of every kind.

The phenomena of spiritualism, animal magnetism, mesmeric trances, mind, faith and medical science cures, are nearly all understood and can be explained by well-known mental and physical laws.

The scientific explanation of these phenomena was given by an eminent English surgeon, James Braid, who first introduced the term "Hypnotism". He held that these phenomena do not arise from another or outside influence, as magnetism; but from the patient's physical and psychical condition. Dr. Carpenter aided in developing this theory which scientific men generally accept. Through habit and external circumstances, ideas become associated in our minds, and when one is awakened, a whole train is set in motion, and we have *internal suggestion*. When this train of thoughts is modified by outward impressions, we have *external suggestion*. While the mind is awake, the will guides the mental process, exercises its power of selection, comparison and judgment. When these faculties are in abeyance the flow of ideas is unrestrained, and there is the mental condition called *abstraction*. When in a somnambulistic state the will and judgment are suspended, and "under its internal suggestion the mind becomes a mere automaton; while external suggestions, if they operate at all, operate only as upon a machine." Concentrated attention upon any object deepens the impression which that object produces. In morbid conditions of the nervous system, impressions may be so strong as to overcome the evidence of the senses; then the prevailing idea is carried into action without regard to the will or consciousness. Then *expectant attention* has an influence upon the body so that we think we see and hear what we expect to see and hear and unconsciously attempt to perform.

The following inductions, which apply to all these subjects, are given by Dr. J. M. Buckley:

First—That subjected mental states, as concentration of the attention upon a part with or without belief, can produce effects either of the nature of disease or cure.

Second—Active incredulity in persons not acquainted with these laws but willing to be experimented upon is often more favorable to sudden effects than mere stupid, acquiescent credulity. The first thing the incredulous, hard headed man, who believes that “there is nothing in it” sees, that he cannot fathom, may lead him to succumb instantly and entirely to the dominant idea.

Third—That concentrated attention, with faith, can produce very great effects; they operate powerfully in acute diseases, with instantaneous rapidity upon nervous diseases or upon any disease capable of being modified by direct action through the nervous or circulatory system.

Fourth—That cures can be wrought upon diseases of accumulation, such as dropsy and tumors of the various kinds, with great rapidity, where the increased action of the various excretory functions can eliminate the accumulations from the system.

Fifth—That rheumatism, sciatica, gout, neuralgia, contractions of the joints, and certain inflammatory conditions may disappear under similar mental states suddenly, so as to admit of healthful exercise, which exercise, by its effects upon the circulation, and through it upon the nutrition of diseased parts may produce a permanent cure.

Sixth—That the “mind cure” apart from the absurd philosophy of the different sects into which it is already divided, and its repudiation of all medicine, has a basis in the laws of nature. The pretence of mystery, however, is either honest ignorance or consummate quackery.

Time would fail us and it is not in the scope of this paper to speak of individual empirics, who have duped the ignorant public and enriched themselves with their patented pills, syrups, bitters, liver and kidney cures, blood purifiers, magnetic rings, belts and plasters, etc., etc.

I must for one moment notice the now prevailing empiric

scheme called Keeleyism. If the analysis of the substances used is approximately correct, then not only is the use of it the purest charlatanism, but also lives are endangered by it. The regular profession should throw its whole influence against it, especially as there are some of its members the promulgators of the quackery. In conclusion we ask by what means has the empiric been able to impose upon the public and who are his supporters? The ignorant, the credulous, the impressionable and the nervous have alike been the followers of every new scheme; and the advocates of the most contrary systems; but never discouraged; when one fails they are ready to take up another.

"Mystery has been said to be the soul of empiricism." And the accomplished charlatan knows well how to use this principle. He therefore keeps his remedies and all his modes of procedure a secret to himself, being sure that when these become known the charm is lost and his occupation gone.

There is a desire almost instinctive for a specific remedy for every ailment according to the oft expressed belief, "that every disease has its remedy".

Some diseases are obscure and incurable, and the conscientious practitioner must admit the fact. The people believe in "cures", and seek the quack who promises everything. Even in our ranks in the United States, quackery receives too much encouragement.

But the practical question is, how must empiricism in this country be overcome?

First—By raising the standard of education in our medical schools, so that the difference between the scientific physician and the pretender can easily be seen.

Second—By advocating a "Medical Practice Act", that shall prevent all who do not give evidence of a scientific education from exercising the right of prescribing for the sick. Connecticut is one of the few states which allows any man or woman to use the title of "Doctor" and vend any or all kinds of nostrums without the least knowledge of the human body or of the nature of the medicines. The sick and wounded must be attended, and it is only just to them, that those who prescribe for them be thoroughly competent.

Third—By diffusing knowledge among the people. Anatomy, physiology, and the chemistry of common things should be more thoroughly taught in our schools. In this way the people would learn to exercise their reason and common sense as they do in the ordinary affairs of life.

But whatever we do, empiricism in some form will continue. Sect after sect of empirics have come and gone. If one is overthrown another succeeds it. They all agree in one thing, opposition to the regular profession.

Scientific medicine survives them all. It has made all the important medical discoveries which have benefitted mankind, and has freely given them to the world. It has established its colleges and hospitals in every enlightened country. In these the science of medicine is taught, new investigations made, and to them we look for all future progress in the Healing Art.

OBITUARIES.

*Let's talk of graves, of worms and epitaphs ;
Make dust our paper, and with rainy eyes
Write sorrow on the bosom of the earth.
Let's choose executors, and talk of wills :
And yet not so,—for what can we bequeath,
Save our deposed bodies to the ground?
And nothing can we call our own but death,
And that small model of the barren earth
Which serves as paste and cover to our bones.*

KING RICHARD II., Act iii, Sc. 2.

OBITUARIES.

ISAAC G. PORTER, A.M., M.D., NEW LONDON.

BY A. W. NELSON, M.D., NEW LONDON.

"Dr. Porter is dead. The aged physician passes away in his eighty-sixth year."

Thus was headed the sketch of Isaac G. Porter, A.M., M.D., in the *New London Day* on April 30, 1892, the date of his death. The significance of the heading explains itself in his long and useful service as a physician in a city not so large but that all, or nearly all, could personally know him as a right worthy fellow in his art, for many decades.

Dr. Porter in 1885, in a letter to H. C. Wile, M.D., of the *Medical News*, gave a brief story of his life. This, with some additions, is given here:

"Born in Waterbury, where my father was a clergyman, June 29, 1806. My father returned to Farmington, the home of his ancestors since Connecticut was settled, President Porter of Yale being of the same stock, and there, for the most part, my life was spent until I went to college, (Yale) graduating in 1826, my father having received the same degree in 1786, and my only son (who was an officer in the late war, where he was killed) in 1857. Having decided to enter the medical profession I pursued the study partly in New Haven and partly in Philadelphia, where I graduated at the University of Pennsylvania in 1833. Immediately after, I established myself in this place (New London) where I have since been actively engaged in the life-work of my choice. Individually it is a pleasant reflection in the retrospect that, morning by morning (and often in the night season) it has been my privilege for fifty-two years to go in and out from the same habita-

tion on hopeful errands of relief to human suffering. Nor has my pen been idle in professional matters, having been from the outset a not infrequent contributor to the *American Journal of the Medical Sciences* and other similar publications. Have been not infrequently president of the County Medical Society. I have also held the same office in the Connecticut Medical Society, also was selected by the Philadelphia board of physicians in 1876 as one of the three from this State to represent us in the great Centennial meeting of the American Medical Association, of which we were members.

"In the war of the rebellion I was engaged from near its outbreak till a few years after its close, viz.: from August, 1861, to November 30, 1867, as post surgeon at Fort Trumbull, which, in connection with its uses as a military station and its hospital department caring for sick and wounded soldiers sent from the field for treatment, was also a recruiting station at which thousands of soldiers were examined by me for admission into the army.

"At that time there was no foot-bridge from Brown's wharf to the land adjoining the Fort, but a broad string-piece of timber adjoining the railroad track was used for that purpose. During the equinoctial storm of September, 1861, a message came that a soldier at the Fort who was bleeding from the lungs needed my attention. Taking a lantern and an umbrella I went. That night a change in the hour of running the railroad train had been made without my knowledge and, about midnight, I started on my return. The wind and rain were in my face and then my umbrella concealed from me the headlight of an incoming train from the north which was rapidly advancing, as it also hid my lantern from them. When I first saw, or perhaps heard the train, we were not more than fifteen rods apart and the question was, what to do—whether to drop through the trestle of the railroad into the surging billows below or to attempt to reach the parallel foot-bridge of which I have spoken—I did the latter and just reached a foot-hold on its foundations, but the step of the passing car grazed my shoulder and made it tender and painful for a month.

"At this writing I cannot say why I was not on the foot-bridge, perhaps it was incomplete."

Dr. Porter was President of the Connecticut Medical Society in 1866. His address on the "Medico Chirurgical Lessons of the War" was well timed and able. Speaking of his service for five years at Fort Trumbull, New London, he says:

"I was not a personal participant in the conflict, but occupied a position in the outer circle of the storm. The heavens immediately above were serene and the winds low, yet the southern horizon was skirted with clouds and the rolling waves at our feet gave fearful evidence of a mighty typhoon raging on the ocean without. If I may extend the metaphor, mine was the responsible office, with others, of rescuing and preserving as many as possible of the shattered wrecks, drifting or thrown on these northern shores."

Dr. Porter first came to New London in 1826 as principal of the Young Ladies' Academy. After two or three years he was associated in New Haven for a year or two at the Young Ladies' school with Andrews & Stoddard, the authors of the Latin Grammar. Three days before his death, in his last walk and conversation with a friend he spoke of the high character and fine manners of these men, of his pleasant relations with them, and of their frequent conversations about the irregular Latin verbs and parts while the grammar was in process of composition. He said President Day called Mr. Andrews the *wisest* man he had ever known.

With evident pleasure he recalled these early associates and long lost friends. It should be added here that Dr. Porter in these his early days was exceedingly popular in society and a great favorite with ladies.

During all the history of the Second Congregational Church, he and Mrs. Porter were beloved members, and for very many years till his death he was deacon. His Christian character and his common sense are shown in the following quotation from his manuscript, unpublished, dating back about fifty years. He describes a desperate case of dysentery, with this result and comment:

"This case finally ran into pleurisy and ended in effusion. The points are: Give calomel early, say five or six grains every night, and work off in the morning. Avoid cold, above all cultivate an unwavering confidence in God that he will do all things well. Avoid visiting too often. *Think*

rather than read. Confine your anxiety to yourself. Do all you can and leave consequences."

He closes the address with words that we may well remember:

"Without feeling either called on or competent to decide upon the correctness of the eliminative theory of this affection, the subject may be used as an illustration. Applying it to the matter in hand, there is no little evidence that in diarrhea and dysentery, especially if chronic, the discharges are, sometimes at least, conservative of nature, and that active medication becomes useless, and astringents, particularly if vegetable, injurious; that there is a necessity for the drain, which cannot be safely met by introducing into the circulation the elements of healthy blood; if the case be scorbutic, by the use of oranges, baked apples and mashed potatoes, and in all mild nutritious food; removal, if possible, from the location and causes of the original attack; pure air and warm clothing; everything, in short, promotive of good sanguification; ever bearing in mind the general maxim of T. K. Chambers, 'the best remedy to a diseased organ, especially if the affection be chronic, is a stream of healthy blood'."

His family comprised, Mrs. Porter, née Williamina Davis of Philadelphia, married September 12, 1883; an estimable woman, died November 17, 1881.

An only son, Edward Leighton Porter, A.M., Yale, 1857, a lawyer in Norwich till the war, then Captain of Co. A, Second Connecticut Volunteers, was killed at Winchester, Virginia, June 15, 1863, gallantly leading his men into action.

A daughter, Williamina, alone of his family survives.

Dr. Porter died of old age. He was confined to his house three days. He left much manuscript, having kept an indexed common-place-book up to the time almost of his death, and he wrote and published much that was meritorious. His published papers in one journal only here enumerated show that his life-long work was "well done".

DR. PORTER'S MEDICAL PAPERS—HIS CONTRIBUTIONS FOR FORTY-ONE YEARS TO HAYES' JOURNAL.

The papers of the late Dr. Isaac G. Porter published in

The American Medical Journal, Quarterly, of Philadelphia, alone are twenty-one in number and continue from 1835, fifty-seven years ago, to 1876. They were accepted by the editor of The Journal because of their merit, and not for favor or friendship and paid for as marketable articles. The descriptive titles, with date and order, are given below:

1835 (1). Case of profluvium vaginale [from encysted dropsy in an adult]. Recovery. Two pages.

1837 (2). Encysted dropsy [in a child]. Autopsy. One and one half pages.

(3). Complete division of the pharynx above the larynx; with loss of the os-hyoides and part of the epiglottis. [Case of cut-throat.] Recovery. Six pages.

1838 (4). Neuralgia of the spinal nerves. Cases. Fifteen pages.

1839 (5). Case of twins simulating superfetation. Five pages.

1843 (6). Obstetrical cases and observations. Eight pages.

1845 (7). Temporary protrusion of the eye with loss of vision from rheumatic inflammation, following scarlatina. Four pages.

1848 (8). Case of cancer of the stomach. Two pages.

1849 (9). Premature labors from unusual causes. Nine pages.

1853 (10). Obstetrical cases. Four pages.

1856 (11). Case of spinal apoplexy. Autopsy. Five pages.

1856 (12). Inversion of the uterus, replaced the third day. Recovery. Two pages.

1858 (13). "Meddlesome midwifery is bad." Read before the New London Medical Society. Seven pages.

1860 (14). On incurved toe-nail. Two pages.

1864 (15). Cases. (1) Chronic pleurisy from gunshot, with paracentesis. Recovery. (2) Choreic convulsions in a recruit. Eight pages.

1866 (16). Neuralgic and paralytic affection after precipitate labor. Six pages.

1869 (17). Bromide of potassium in later stages of typhoid fever, in hysteria and in infantile convulsions. Five pages.

1871 (18). Acute atrophy of the liver. Autopsy. Two and one half pages.

1873 (19). External diaphoretics, or "Wet Pack" in Eclampsia of albuminuria [of parturition]. Recovery. Five pages.

1876 (20). Rupture of uterus, cause unknown. Death. Two pages.

(21). Embolism and thrombosis of pulmonary artery. Autopsy. Three pages.

RUSSELL H. TIFFANY, M.D., HARTFORD.

BY GEORGE R. SHEPHERD, M.D., HARTFORD.

Dr. Russell H. Tiffany was born in Torrington, Connecticut, January 24, 1812. He received a common school education and, quite early in life, assumed the duties of teacher in one of the outlying districts of his native town. For several succeeding winters, in addition to the regular school course, he conducted singing schools in the neighboring towns, in this way earning the money with which later on to secure his medical education. He graduated from the Vermont Academy of Medicine, located at Castleton, Vermont, about the year 1836, and immediately began practice in Collinsville, Connecticut, succeeding the then venerable Dr. Weed. Having been more than forty years in Collinsville he removed, in 1878, to Hartford, where he continued actively engaged in professional work up to the day of his death.

Dr. Tiffany was a man of remarkable physical endurance. It is said that he was never known to be confined to his bed by sickness a single day during his life. His patients found him genial, agreeable and even-tempered, and he soon acquired their confidence and esteem.

His materia medica was usually a very limited one, a few well-tried and effective remedies being preferred to the host of new ones coming daily to light. With bicarbonate of soda, rhubarb, Dover's powder and quinine he was prepared to meet most any disease, and, be it noticed, his patients recovered promptly, too!

Dr. Tiffany was married early in his professional career to Miss Rachel Benjamin of Barkhamsted, and their three sons now survive him, but the mother died about 1864. Some years subsequently he married Miss Marianna Crocker of Nor-

wich, Connecticut, who died shortly after their removal to Hartford, leaving the Doctor to pass the declining years of his life alone. He died very suddenly, of acute pneumonia, at his home in Hartford, February 6, 1892, having just passed his eightieth birthday.

LEVI IVES, M.D., NEW HAVEN.

BY DAVID L. DAGGETT, M.D., NEW HAVEN.

Died, in New Haven, on the morning of November 30, 1891,
Levi Ives, M.D.

The ancestors of Levi Ives, M.D., for several generations lived in New Haven, where he was born July 13, 1816. His paternal and maternal grandfathers were officers in the Revolutionary army, the former, whose name he bore, having been for many years a physician of large practice in this city. His father, Eli Ives, M.D., was distinguished not only for his skill as a physician, but also for his superior attainments in general science. One of the founders of the Yale Medical Institution, he discharged the duties of a professor for nearly fifty years.

Levi Ives, after a partial course in the Academic Department of Yale, commenced the study of medicine in the office of his father. After graduating at the Yale Medical Institution, he availed himself for nearly two years, of the advantages of Bellevue Hospital, at that time the largest hospital in the city of New York. In 1841, soon after locating in his native city, he married Miss Caroline Shoemaker, daughter of Elijah Shoemaker of Wilkesbarre, Pennsylvania. She survives him and their only child, Robert V. Ives, A.M., M.D., a well known and popular physician of this city, is by direct descent of the fourth generation to bear the family professional title.

Reared, as it were, in a medical atmosphere, the subject of this sketch may have early imbibed a taste for his profession. Certain it is that he did not mistake his calling, as is amply proved by his long and unusually successful career. No physician could have more fully the confidence of the entire community than he did. This confidence was, in part, earned by his skill in the treatment of disease. He came to the bed-side with all his abundant resources at command. Quick to discern, he seemed to grasp almost intuitively the important point of

each case. From his wide and accurate knowledge of *materia medica*, he discriminated wisely and nicely in the adaptation of his remedies. Although progressive and keeping pace with the progress of medical science, he was not given to the adoption of new theories or speculative ideas, but preferred the beaten paths of experience and safety. Nor was he a routinist, but he was notably original in his prescriptions.

In obstetrics, his readiness to perceive and to act, combined with a cheerful and equable temperament, won for him a large and influential clientele. His professional brethren often sought and appreciated his sound judgment and ripe experience.

No man could be more devoted to his profession. With rare singleness of purpose, foregoing the allurements of ease and pleasure, he surrendered himself to the welfare of his patients, faithfully and anxiously watching over them.

Joined with that benevolence so expressive in his countenance, was great simplicity of character. He was without guile and abhorred ostentation. Honesty of purpose and entire freedom from selfish ends inspired confidence in all who sought his counsel, and that confidence very often grew into personal friendship. Whatever is exemplary in dealing justly with his fellow men, in speaking evil of no man, in bountifully befriending the poor, in sacrificing self for the good of others, in leading a blameless life—these virtues were features in his upright and Christian life.

His funeral was attended from the Congregational Church, of which he had long been a consistent member and in which his grandfathers had been for many years venerated officers. A sorrowing assemblage of honored and prominent citizens thronged the church. In the language of the touching discourse on that occasion by one who had formerly been his pastor, "all of us unite in the thought of how sweetly, serenely he lived; how his life shone with brightness for all".

"Why weep ye for him who having won

The bound of life's appointed years, at last,

Life's blessings all enjoyed, life's labors done,

Serenely to his final rest has passed;

While the soft memory of his virtues yet

Lingers like twilight hues when the bright sun is set."

RUFUS BAKER, M.D., MIDDLETOWN.

BY S. W. TURNER, B.A., M.D.,

Rufus Baker, son of Henry Baker and Indith (Marshall) Baker, was born in Albion, Maine, January 7, 1815, and died at Middletown, Connecticut, December 27, 1891. He studied Medicine in the office of Dr. Otis of Monroe, Maine, and on the morning of October 27, 1841, started with the Doctor for Washington, D. C., stopping at Augusta, Maine, and Worcester, Massachusetts, to visit the Hospitals for the Insane. He seems at this time to have taken the same great interest in the treatment of the insane which he manifested through life. In his diary, now before me, he speaks of Dr. Woodward as "eminently fitted for the station he holds", and adds, "on examining the records of the admissions and discharges of patients, I find that few were discharged cured who had been insane more than one year. On Saturday our friend reaches New York, and next day, after a journey by rail of seventeen and a half hours finds himself in Washington.

On Monday he attends the introductory lectures of the professors of Columbia College. He seems to have been a diligent student and on March 6, 1842, Professor Thomas Sewall, M.D., writes of him as follows: "Dr. Rufus Baker has passed all his examinations with honor and approbation, and has received the degree of M.D., from our hands. Having been for the last four months my private pupil, and attended my private as well as public instructions, it gives me great pleasure to bear testimony to his industry, intelligence and correct deportment, and to recommend him as a young man well qualified to practice medicine in its various branches."

(Signed) THOMAS SEWALL, M.D., Professor, etc.

May 30, 1842, Dr. W. Parker writes as follows:

"Dr. Rufus Baker, the bearer, has been in my office the last three months. He is a gentleman of moral worth, and of good medical attainment. He has enjoyed ample opportunity, both at Washington and in this city, for seeing practice, and I do with very great pleasure recommend him to the patronage of an enlightened public as a practitioner in medicine and surgery.

WILLARD PARKER, M.D.,

Professor of Surgery in the College of Physicians and Surgeons, New York."

Thus equipped, Dr. Baker located at Deep River, Connecticut, and practiced medicine for seventeen years. He then removed to Middletown, where he lived about twenty-two years, most of the time engaged in active practice. The writer, then a young man, commenced practice in Chester, a mile and a half from Dr. Baker, in 1848, and for twelve years of almost daily intercourse nothing occurred to disturb in the slightest degree the amicable relations existing between us. Dr. Baker always showed himself a safe counsellor and a genial friend, and the friendship thus formed continued through his life. After his removal to Middletown we met less frequently, but from a gentleman of that city, who knows what he is saying, (Dr. D. A. Cleaveland) I have some impressions of him which I most heartily endorse.

He says: "As I knew Dr. Baker for the eighteen years previous to the last four years of his life, I think I have met but few that were his equal and very rarely one that surpassed him in the judgment he displayed in the selection and judicious administration of his remedies. In making his diagnosis he did not seem to have any fixed rules, but was evidently governed by a sort of intuitive perception of the combined symptoms presented, and hurriedly grouping them would make his conclusions, and he was rarely mistaken. He could not explain his course of reasoning, but the result was in almost all instances satisfactory. As an obstetrician he had few equals, and in cases requiring cool judgment and prompt action, he was unsurpassed; and his face in the room of a patient suffering the pangs and agony of a very difficult labor, was a benediction to the tired and worn young practitioner,

who had spent an anxious, sleepless night at the bedside of the sufferer. In the special line of obstetrics I never knew him to make a mistake, or fail to accomplish the desired result, when interference became necessary. Up to within nine months of his death, and while quite feeble and tottering, he would approach a difficult case with all his wonted confidence, and under the inspiration of the moment would handle the case with all his oldtime skill and activity."

I cannot better conclude this brief notice than by giving the Hon. Thomas F. Bayard's portrait of a physician, in an address before the Baltimore College of Physicians and Surgeons at its recent twentieth anniversary. "The physician," he said, "who relieves sorrow and anxiety by receiving and sharing them, can make no proclamation of his well doing, or the service he has rendered, and if he ever hears an applauding voice, it is now and then but not always the still small voice of gratitude. I doubt if there were any real physicians among the sect called Pharisees. Luke was called the beloved physician, and in his history I find no suggestion that Luke was a Pharisee. I have seen such a man. He had counselled the wayward, lessened their anxieties, led the sick back to health, cheered the weak-hearted, rejoiced with them that did rejoice and wept with them that wept. And I have seen such a man so surrounded by an atmosphere of love and trust, holding, as it were, the heartstrings of a family in his hands, their guide, philosopher and friend, and I realized what a moral force in society the profession, properly comprehended and followed, was capable of exerting, and how relatively small a part of its usefulness was the administration of medicine".

Dr. Baker married Miss Sarah Shailer of Haddam, who survives him. Their children, a daughter and a son, died in childhood, the daughter a beautiful girl ten years of age.

NEHEMIAH BANKS, M.D., WALLINGFORD.

BY FRANK E. COUCHOT, PH.D., M.D.

On June 11, 1890, after a varied illness, died, at his residence in Wallingford, Connecticut, Dr. Nehemiah Banks.

Dr. Nehemiah Banks was born in Bethel, Connecticut, November 8, 1813. He was one of a large family, numbering thirteen, the children of Samuel and Lydia (Crane) Banks of Bethel, Connecticut. His father was a physician, so that the son Nehemiah was familiar from early boyhood with the general life of the physician, and hence was led, by parental example and success, to undertake the profession for himself. His early education was acquired from a private preceptor, while he himself was engaged in teaching.

He began the study of medicine in the Yale University, from which he was graduated in 1843. Soon after his graduation he located for the practice of his profession first of all in Cheshire, Connecticut. But his expanding knowledge and skill fitted him for a larger town, and he accepted an opportunity for moving to Wallingford, Connecticut. This he did in 1852, and in 1856 purchased the residence known as the Judge J. Pomeroy place on Center street. Here Dr. Banks lived for thirty-four years.

Dr. Banks was married four times. His first wife died in labor, his second wife of puerperal septicemia, and the third was burned before his eyes. The last, Miss Catharine N. Maynes of Meriden, Connecticut, to whom he was married January 6, 1886, survives him. As a consultant, Dr. Banks was constantly sought, not only because he gave good advice and gave it with perfect honesty and candor, but because in doing so he always scrupulously guarded the reputation of the physician, while being also loyal to the interests of the patient. His relations to the members of the medical profession were

always of the most exalted standard. His observance of the rules of our code of ethics was the strictest.

Dr. Banks truly loved his profession. He had no ambitions outside of it, literary, scientific or political. To him it was occupation enough to apply at the bedside the best of all he knew for the good of his patient.

With his patients he was so perfect in all points that it is hard to overpraise him. His smile was itself a remedy, better than potable gold and the dissolved pearls that comforted the precordia of medieval monarchs. Did a patient, alarmed without cause, need encouragement, that smile carried the sunshine of hope into his heart and put all whims to flight. So gentle was he, so thoughtful, so calm, so absorbed in the case before him as not to turn around and look for a tribute to his sagacity, not to bolster himself in a favorite theory, but to find out all he could, and to weigh gravely and cautiously all he found. To visit with Dr. Banks was a medical education. He was firm, with all his kindness. He would have the truth about his patients. The nurses found it out, and the shrewder ones never ventured to tell him anything but a straight story.

The death of Dr. Banks was mourned by all who knew him, for a more devoted husband, neighbor or physician could not be found.

Dr. Banks was a Mason, and at his burial both the services of his church and of the Masonic fraternity were used in committing him to rest, while the community mourned for an esteemed citizen who should no more be seen on earth.

SAMUEL SANDS, M.D., DARIEN.

BY W. F. FRENCH, M.A., M.D., NOROTON.

Dr. Samuel Sands, son of David Sands and Elizabeth Brady, was born at South Salem, Westchester County, New York, November 10, 1819. After attending the district school of his native village, he underwent a course of study at the Rye Academy, preparatory to the study of medicine. On leaving the Academy, Dr. Sands taught one of the district schools in the town of Greenwich at least as early, if not before 1839, in Northcastle 1842, also in Rye and Harrison subsequent to his removal to Darien, in 1847. While teaching school he had read medicine under the direction of his brother, Dr. David Jerome Sands of Portchester, New York, as the following certificate will testify:

I, the undersigned, do hereby certify that Samuel Sands studied medicine and surgery under my direction from the 20th of June, 1844, up to the present time, and that he is of lawful age to be admitted to an examination by the Censors of the Medical Society of this county for a license to practice physic. He is also a man of good moral character, and has a sufficient knowledge of the classic languages to enable him to fully comprehend the technicalities of medical science.

Portchester, Aug. 3, 1848.

D. JEROME SANDS, M.D.,
Sec. Med. Soc. Westchester County.

DRS. A. H. SLAWSON,
J. B. FOWLER,
J. SCRIBNER,
Censors, Medical Society.

P. S.—A certificate to the effect of the above was duly filed with the President of the Society on the 20th of June, 1844, by me.

D. J. SANDS.

On presenting his preceptor's certificate an examination followed the same day, with a recommend that he be granted a license to practice medicine. The following is a copy:

This is to certify that Samuel Sands having been duly examined by us, as regularly appointed Censors of the Westchester County Medical Society, that we are fully satisfied that he has complied with all the legal preliminaries regulating the study of the science of medicine and surgery, and upon said examination has given satisfactory evidence of his having attained a sufficient knowledge of said science, to warrant us in recommending him as a suitable candidate to receive a license from said Society to practice in the science of medicine and surgery.

Westchester, Aug. 3, 1848.

A. H. SLAWSON,

JOSHUA B. FOWLER,

JAMES W. SCRIBNER, M.D.,

Censors.

A license to practice, signed by Joshua W. Brown, President, was granted by the Society August 7, 1848.

Dr. Sands married, first, Hannah Reynolds of Bedford, New York, about 1843. One child, the wife of Dr. Trip of Beekman, Dutchess County, New York, survives this union. Dr. Sands was the second doctor to settle in Darien in all its history. Even when Darien was a part of Stamford no doctor had ever lived east of Noroton River, the future boundary of the two towns.

The pioneer in this thinly settled community was Dr. Percival, who was to die shortly after Dr. Sands began teaching school in the Noroton River District, but not before he had obtained his certificate.

With Dr. Percival's good will, and what often went with it, his books and saddle-bags, Dr. Sands was to enter a successful career as medical practitioner.

In 1852 he married Esther Scofield of Darien, his first wife having died three years before. In 1854 Dr. Sands joined the Fairfield County Medical Association and continued a member until his death July 15, 1891. He was Secretary for a number of years.

Dr. Sands was always active in town affairs, holding many offices of trust. He was very much loved by his patients on account of gentleness and kindness, even when he was unfit to practice on account of his own feeble health. No matter what the weather was and despite of the wish of his family, he always responded cheerfully to every call. When he died after a severe sickness of four months, following an attack of epidemic influenza, he was truly mourned by every person in the village.

J. B. DERRICKSON, M.D., WARREN.

BY O. BROWN, M.D., WASHINGTON. •

Dr. John B. Derrickson was born on Tinicum Island in the Delaware River in the year 1827, the youngest of nine children. He received his preparatory education at Pennington, New Jersey, and graduated from Jefferson Medical College in 1850. He commenced the practice of his profession in Crosswicks, New Jersey, where he remained for five years. During a part of this period he was Superintendent of Public Schools of Mercer County. He removed to Warren in this State in 1855 and at once commenced the laborious practice which devolves upon the one physician of a hilly town in Litchfield County, with its widely scattered population.

Dr. Derrickson devoted himself to his work with great patience, fidelity and skill, and received in an unusual degree the compensation which makes up such a large percentage of the country Doctor's fees, the love and affections of his patients. Besides performing his arduous professional duties he filled many offices of trust in his adopted town, among others that of Town Clerk and Treasurer, which he held for more than twenty years.

Personally Dr. Derrickson was a man of quiet though genial manners, to which was added a fund of unsuspected humor. He married Miss Emily Miles, of New Milford, who with an only daughter survives him. His death occurred January 12, 1892, after a brief illness.

HARMON W. SHOVE, M.D., WOODBURY.

BY L. Y. KETCHUM, M.D., WOODBURY.

Dr. Shove was born in Warren, Connecticut, July 30, 1823. He was one of seven children and his father, Cyrus Shove, was grandson of Rev. Seth Shove, who came to this country from England about the year 1700, and became the settled pastor of the First Congregational church in Danbury. Dr. Shove, the subject of this sketch, remained at home in Warren until he was about fifteen years old. He then attended Howard's in Warren for three years, after which he went to New Jersey and taught school four years. He then taught two years in New York and two in Connecticut. About 1849 he commenced the study of medicine in Litchfield in the office of Doctors Beckwith & Seymour. He attended one course of lectures at Yale Medical College and two at the College of Physicians and Surgeons in New York, and was graduated at Yale in the spring of 1852.

For two years, while pursuing his studies, he held the appointment of surgeon's steward in the United States navy. This was, both in experience and in a pecuniary point of view, of great assistance to the young student. Immediately after graduation Dr. Shove settled in Woodbury, where he has since resided. He has steadily devoted himself to his profession, working with assiduity and never relaxing his student habits of earnest work and strict attention to business. Seldom if ever was he away from his office except upon his round of professional visits. During the forty years of his lucrative practice, he amassed a handsome fortune. Probably no physician ever residing in Woodbury has practiced uninterruptedly for such a length of time and obtained and maintained a greater hold on the confidence and esteem of the people. He will be missed by many who have long been accustomed to his ministrations in the sick-room.

Dr. Shove was a self-made man, and was a good example of what may be accomplished by faithful application, self-denial and patient courage. Although among the older practitioners Dr. Shove was in advance of the average isolated country physician, of the older school, in keeping abreast of the times and well read in modern methods of treatment. He was an interested student of the current medical literature. He was a member of the Litchfield County Medical Society, and has been an examiner for pensions. He has ever been much interested in the common and high schools and has for many years been President of the School Board.

Dr. Shove was married July 30, 1861, to Susan J., daughter of Thomas Bull, an old Woodbury family. They had no children. His death may be said to have been untimely, as he was in the full vigor of a well-preserved manhood. Although so near the allotted three score and ten years, he retained the robust energy of a man of middle age and up to within ten or twelve days of his death he was attending his usual duties and travelling miles of his large territory of practice. On Wednesday, January 13th, upon his return from a visit to a distant patient, he was taken with a severe chill, which rapidly developed into pneumonia, which ended in his death January 24, 1892.

MOSES H. WAKEMAN, M.D., REDDING.

BY WILLIAM S. TODD, M.D., RIDGEFIELD.

Dr. Moses H. Wakeman, a descendant of some of the earliest English settlers of Fairfield and New Haven counties, was born in Greenfield Hill, November 5, 1829, where until he was seventeen years of age he dwelt upon his father's farm, working summers and attending the district school during the winter months. At the age of seventeen he commenced a course of study at the Easton Academy, which he pursued for three years. He then commenced the study of medicine with his uncle, Dr. Nathan Wheeler of Patterson, New York. He studied with him three years, during the time taking two courses of lectures at Yale Medical School, where he graduated in 1854.

After graduation he began practicing medicine with his uncle in Patterson, but soon settled in Southeast, where he remained four years. In the fall of 1858 he entered into partnership with Dr. Charles Gorham of Redding. The latter dying the following year, Dr. Wakeman continued the practice of medicine in Redding and neighboring towns until ill health obliged him to relinquish it. In 1886 he had a stroke of apoplexy which left him partially paralyzed and greatly impaired his usefulness. He never recovered his health, although he was able for a few years to resume practice in some measure. He had another shock in 1889 and after that time, owing to poor health and feeble eyesight, he was obliged to cease from professional work. He had another attack the last of December, 1891, and died after lingering about a week in a semi-unconscious condition.

Dr. Wakeman was married May 31, 1864, to Harriet White Collins of Redding. Three children were born to them, Mary Collins, Harriet Wheeler and Henry W. His son died in

infancy. One daughter is now the wife of Dr. Ernest H. Smith, who has succeeded to the practice of Dr. Wakeman.

Dr. Wakeman for many years held the office of Registrar of Births and Deaths in Redding; was also Medical Examiner and Post Surgeon for many years.

What his religious tenets were I do not know, but I am under the impression that his sympathies were with the Methodists, of which church I think he was a member.

The life of a country practitioner is not one in which greatness, as the world calls greatness, is achieved. But it is a life of devotion to duty and self-sacrifice such as no other profession or walk in life affords. Dr. Wakeman's life was a particularly hard one. His field was large and difficult, for the surface of the country was exceedingly hilly and the roads long and tedious. During his best days his field extended into Bethel, Newtown, Weston, Easton, Westport and Wilton. From early in the morning to late at night he was always on the road, regardless of the weather. He was always ready to attend the calls of the sick.

Dr. Wakeman was a modest, unassuming gentleman, a kind husband and father, and a devoted physician. His last years were clouded by disease, but his end was peace and his memory lives after him.

SAMUEL WALDO HART, M.D., NEW BRITAIN.

BY E. B. LYON, M.D., NEW BRITAIN.

Dr. Hart's death occurred December 31, 1891. His father, the late Dr. Samuel Hart, and his mother, Mrs. Orpha North Hart, were identified from early life with the best social and public interests of New Britain.

Dr. Samuel Waldo Hart was by birth and breeding a gentleman and by acquisition he had a fine equipment for the work and enjoyment of life.

His early education was obtained in the academy of his native town and in private schools elsewhere. He attended two courses of medical lectures at the Berkshire Medical College, took a private course in medicine under Professor B. R. Palmer of Woodstock, Vermont, and one course at the Hancock Medical College. He also received a Yale medical diploma in 1855. In 1857 he went to Europe, remaining there one year, and visiting during that time many leading European hospitals. He spent four months in Paris, going almost daily to the Hospital Laraboisere and Hotel Dieu.

He was associated with the late Dr. John S. Butler, Superintendent of the Retreat for the Insane at Hartford, from August, 1846 to 1857, when owing to his father's failing health he resigned his position and returned to New Britain to take up his father's practice.

To his profession he brought penetration, skill, a keenly sympathetic temperament, and great refinement of feeling. Loyal to his chosen system he was ever reaching out for new methods and combining in his practice safe conservatism with aggressive and progressive work. He was a member of Hartford County, the State and American Medical Associations.

He was chairman of the city Board of Health for five years,

and was largely interested in the inauguration of a complete sewerage system for the city.

He was elected mayor of his native city in 1872 and held that office for five consecutive years.

His public services were many and varied, but it was in private life that his charming personality was best understood and appreciated. His genial presence, keen sense of humor and rare conversational powers made him a favorite in society as long as his physical strength allowed him to join in it.

He was a pillar in St. Mark's Episcopal Church, where he served as clerk, treasurer and for many years as warden. He will be remembered as a gentleman of unblemished character, of superior ability and rare social gifts.

He leaves a widow, Margaret Catherine, daughter of the late William B. Smythe of Maryland, two sons and three daughters.

WILLIAM DEMING, M.D., LITCHFIELD.

Dr. William Deming died at his residence on North street, after a lingering illness, on Sunday evening, September 20, 1891. He was the eldest son of William Deming, was born in Litchfield March 16, 1833, and was graduated from the medical department of Yale College in 1856. In 1858 he married Mary Ann, daughter of Mr. Horatio Benton of Morris and began the practice of his profession at Lenox, Massachusetts, in 1858, where he remained about nine years.

Shortly after his father's death, in 1867, he left a large and lucrative practice in Lenox and returned to his native place, where he has ever since lived and practiced his profession. For a few years he had a legal residence in Morris, which town he represented in the legislature of 1869. Since his residence in Litchfield, he has held the position of President of the Connecticut Medical Society and has been several times President of the Litchfield County Medical Association. He represented his town in the Legislatures of 1875 and 1876, and has been many years chairman of the committee which has charge of all the public schools of Litchfield. He was for several years a vestryman of St Michael's Parish, has repeatedly been the presiding officer of the Masonic lodge, council and chapter, and was a member of the Waterbury commandery of Knights Templar.

Dr. Deming was prominent in promoting the most important and extensive public improvement ever accomplished in his town and vicinity—the building of the railroad from that village to Hawleyville. He was a large owner of the stock and bonds of the corporations which have successively owned this railroad, was elected a director of the Shepaug Valley Railroad Company at its organization in 1869, was continued a director by the companies which have since come into possession of the road by foreclosure, and was for many years secretary of the Shepaug Railroad Company.

Dr. Deming was skillful in the practice and a careful student of the literature of his profession. Moreover, he was a man of wide information and enlarged views. Of decided character and positive opinions, he was by no means the least notable of a notable family. A capital talker and, though writing but little, a correct and forcible writer, he was one of the ablest men of the Litchfield of our day.

Almost without regular training in music, Dr. Deming was one of the few persons we ever knew who attained to proficiency on that most difficult of instruments, the violin, without a teacher. His love of the art and the patience and perseverance with which he pursued it in the face of difficulties and discouragements were simply phenomenal.

Dr. Deming leaves a widow, a son now practicing medicine in Westchester, New York, and two daughters.

C. W. SHEFFREY, M.D., BRIDGEPORT.

BY GEORGE B. COWELL, M.D., BRIDGEPORT.

Dr. Charles Wooley Sheffrey, for many years one of Bridgeport's best known and most respected physicians, was born in Birkenhead, England, on the seventeenth of September, 1832. In his sixth year, with his parents he migrated to this country, where he remained to the time of his death. Graduating from Smith's Grammar School of New Haven, he completed his academic training at Worcester, Massachusetts, after which he entered the office of Dr. Charles Hubbard of New Haven, where for a time he pursued the study of his profession. Soon after, he matriculated at the Medical Department of Yale College, from which he took his degree in 1861. As a student he was more than usually proficient and a universal favorite with his fellows, attributes which remained prominent in his after life.

At the time of his receiving the degree of Doctor of Medicine this country was thrown into a state of distress and confusion by the outbreak of the Civil War. This at once appealed to his philanthropic spirit and in response he offered any service for his country. In his profession he served as assistant surgeon in the Sloan United States Hospital at Montpelier, Vermont.

The war ended, Dr. Sheffrey entered civil life at Ansonia, Connecticut, and New Haven. In the former place he attained a lucrative practice and was undoubtedly the leading physician in the borough. His gentlemanly deportment, together with his exact and extensive knowledge of his science, quickly won for him a host of friends who in a slight way expressed their esteem in electing him registrar of births and deaths for the town of Derby, of which Ansonia is a part.

His stay in Ansonia, however, was not many years in dura-

tion, after which he practiced successively in New Haven, Connecticut, and Elizabeth, New Jersey. From Elizabeth he came to Bridgeport, where he spent the rest of a useful life in an active practice, a period of over fifteen years' duration. He was married in 1866 to Miss Mary H., daughter of Dr. F. Gallagher, a physician of Washington, North Carolina. He left no heirs. His health finally succumbed to the trials and hardships of an extensive practice, and the four years antecedent to his death he endured almost as an utter invalid. On the twelfth of February, 1892, he died of pneumonia at Chipewa Falls, Wisconsin, where he had gone in quest of climate and possible health.

Pen would fail in portraying the many sterling qualities of this man's individuality. Naturally endowed with a pleasing manner, a commanding physique and gentlemanly presence, education seemed only to polish, and render more striking the charms of his personality. Ever a champion of right and truth, he met with unflinching nerve any opponent to the principles of manhood.

Great as was his merit in his profession, his merit as a man was far higher; and in his death not only does a host of sufferers lose a much endeared physician but a loving friend.

JOHN H. SIMMONS. M.D., ASHFORD.

BY T. MORTON HILLS, M.D., WILLIMANTIC.

John H. Simmons was born in Ashford, November 21, 1811. His father, Alva Simmons, was a leading citizen of that good old town, located on one of the great highways of that time, the Hartford and Boston turnpike. His mother's maiden name was Tryphena Burnham, and they both were born in Ashford and passed their lives there. Dr. Simmons' early life was spent in his native town, where he attended the district school and the Ashford Academy, an institution that had quite a reputation.

He graduated from the medical department of Yale College in 1833. He located at Pomfret Factory, now Putnam, where he remained one year and then returned to Ashford. May 23, 1839, he married Mary Smart of Salem, New Jersey, who died February 27, 1876. Four children were born to them. Three sons survive him; John S. Simmons, residing at Woonsocket, Rhode Island, William J. Simmons of Washington, D. C. and Charles H. Simmons of Pomfret, Connecticut. All three served the United States during the late war.

November 19, 1877, Dr. Simmons married Mrs. Emeline E. Moulton, who survives him. As a physician he was painstaking, patient and kind. A large practice in his own and surrounding towns did not prevent his taking an active interest in town affairs. He represented Ashford in the Legislature of 1855. The Fourteenth District sent him to the Senate in 1861 and 1864. From 1867 to 1872 he held an office in the internal revenue department. He was for two years postmaster at Ashford. He held other positions in the town for years with ability and credit. He was an active and leading member of the Congregational church at Ashford.

He died November 12, 1891, from a severe attack of "La Grippe". His mind was strong and clear to the last.

JOSEPH WRIGHT ALSOP, M.D., MIDDLETOWN.

BY FRANCIS D. EDGERTON, A.M., M.D., MIDDLETOWN.

Dr. Joseph Wright Alsop was born August 20, 1838, in New York City. He died June 24, 1891, at his Fenwick Cottage. He entered the Sheffield Scientific School, the present science department of Yale University, in 1857. Later he further pursued scientific studies at the Columbia School of Mines. Having been an intimate friend and companion of the late Dr. John Ellis Blake, a former member of this society, he formed a taste for the study of medicine and after having pursued a full course of study at the Medical Department of the university of New York, he graduated Doctor of Medicine March, 1854. Being the only child of a gentleman of large wealth he never practiced medicine as a profession, but the year following his graduation visited California and the Sandwich Islands. He had for many years been greatly interested in agricultural pursuits and the breeding of fine Jersey stock on the large farms at Middletown where his father resided during the summer months. The years of 1867 and 1868 were mostly spent in Europe with Dr. Blake and his family. He married in May, 1869, Miss Elizabeth Winthrop Beach of New York, a grand daughter of the late Captain de Koven of Washington street, and niece of James de Koven, D.D., late President of Racine College. He had seven children, three daughters and four sons, five of whom survive both father and mother, Mrs. Alsop having died March 29, 1889. After his marriage he resided permanently at Middletown and his children were all born there save one, who was born in New York.

Though not a medical practitioner, his interest in his profession induced him to become a member of the Middlesex County Medical Society. He was very regular in his attendance at its meetings, taking an active part in the discussion, and was President of the Society at the time of his death.

He was a most thoroughly busy man, holding many high offices of trust and honor. He was a member of the city government for several years and a member of the lower house of the Connecticut Legislature in 1873. He was elected Trustee of the Connecticut Hospital for the Insane in 1880, and in 1881 he was elected to the Board of Directors of the Connecticut Industrial School for Girls; he also in 1881 became a member of the State Board of Agriculture. He continued a member of these several boards, having been re-elected when his term of office expired, until his death.

His sterling qualities and noble straightforwardness made him a very strong political candidate and he was elected to the State Senate for three consecutive terms, from 1881 to 1886 inclusive. In 1890 he was elected Lieutenant Governor of the State. He took the oath of office and presided over the deliberations of the Senate for one day, but owing to the complicated state of political affairs he never again presented himself in the Senate chamber as its presiding officer, thus avoiding the excitement, a precaution which was necessitated by his disease, angina pectoris. It was against his express wish that he was nominated to this last office, but his party, knowing his popularity, placed his name on the ticket and he felt that he could not well decline. It indeed seems hard that a pure and noble life like his should have been imperiled, perhaps destroyed, because others failed to do what seems to us an obvious duty. This is no place and no occasion to discuss the political situation which has blocked all legislation in the State of Connecticut for two years, but the lovely, dignified and charitable way in which Dr. Alsop met his political adversaries was characteristic of the man, and could only bring from them the profoundest respect. The large attendance at his funeral, of men of all political opinions, showed how much more the man was admired, than the office. There has seldom been such a gathering of prominent men in Middletown as on this occasion. There was, perhaps, never a more impressive funeral than was witnessed, without display of any kind, at his residence on the lovely summer afternoon of June 27, 1891, overflowing out upon the broad piazzas and shaded lawns surrounding his beautiful home. There were gathered together State officers,

elect and de facto, members of the upper and lower houses of the Legislature, Trustees of the Hospital for the Insane, Trustees of the Russell Library, Directors of the Industrial School for Girls, Trustees of the Berkely Divinity School, members of the State Board of Agriculture, members of the Indian Hill Cemetery Association, Trustees of the St. Luke's Home for Widows, members of the Connecticut Medical Society, citizens and others from afar, rich and poor, and each felt that he had sustained the individual loss of a personal friend.

While not an active practitioner of medicine, he exerted a most beneficial influence as a medical man, both by word and example, and the trend of that influence among all classes was to make the profession respected and appreciated. He was generously philanthropic and his benefactions without ostentation reached many a hamlet in a tangible form. As a member of the Board of Trustees of the Asylum for the Insane and the Industrial School, his knowledge of medicine had an opportunity to take expression and form and make him a most useful practical worker. To those brought thus in intimate association, he was a pleasant surprise and the longer the relation continued, the stronger became their consideration for their unpretentious associate.

Had circumstances compelled him to follow the practice of medicine he would have taken first rank, as he did in other things. He was earnest, sincere and sympathetic in his varied relations with the human family, and there is no better opportunity than the active work of our profession offers, for the constant exercise of such elements of character which were eminently and peculiarly his own. These, combined with a highly cultivated intellect of high order and extraordinary good sense, were sure to have placed him in an eminent position.

His life demonstrates how well the so-called gentleman of leisure may serve society: how he may make himself highly and universally respected and loved by his high-mindedness and honest administration of various trusts: how as a politician he may be popular and useful, while he leads a political life that is absolutely above criticism in matters of right and honesty: how kindly sympathy in the daily affairs of all classes and conditions endears its bestower to the whole world: how unselfishness makes a man truly great.

JOHN WITTER, M.D., PUTNAM.

BY H. W. HOUGH, M.D., PUTNAM.

John Witter, M.D., was the son of Asa Witter, M.D., of East Woodstock, Connecticut, and was born December 30, 1830. He received his education in the district school and at the Academy at South Woodstock.

After a voyage to China he read medicine with his father, who was one of the prominent physicians of Windham County. He attended lectures at Yale Medical College, graduating in March, 1855. He remained in New Haven after graduation some two years (as house surgeon a length of time) and then went to Brimfield, Massachusetts, in August, 1857, and became much respected there for his medical and surgical abilities.

He was married to Miss Mary C. Paine in 1859, remaining in Brimfield till 1867, when he removed to Putnam, Connecticut. He stayed there until his death, May 19, 1891, in the sixty-first year of his age.

Dr. Witter was one of the oldest physicians in Windham County and was held in high esteem by all who knew him as a physician and surgeon, especially by the members of the profession as a man of strong mind as a physician and a skillful operator as a surgeon. He was often called in consultation where experience, skill and good judgment were needed, and was always found reliable.

He was an enthusiast in his profession; he had good sense and was a safe practitioner, giving medicine only when he thought it was needed, not giving it for show. He is much missed by his acquaintances and is missed by many families.

To know him intimately was to respect him.

J. H. McNAMARA, M.D., HARTFORD.

BY GEORGE C. BAILEY, M.D., HARTFORD.

The oscillations of the pendulum of time bring with them moments of pleasure and sadness, which in fleeing leave behind moments of joy and sorrow, to individuals, families, congregations, societies and countries. This same staff of time has pendulated for the Hartford County Medical Society and while it was not born to always sorrow, yet since its last meeting one year ago there has been a shroud of mourning thrown over it by the death of Dr. James Hughes McNamara, one of its youngest members, who died after a very short illness on February 27, 1892. Dr. McNamara was a nephew of the very Rev. James Hughes, Vicar General, and was born on February 22, 1863, in Hartford.

His early education was obtained in his native city, and in September, 1879, he began his college course at Holy Cross, Worcester, Massachusetts. In the fall of 1883 he commenced the study of medicine at the University Medical College of New York, from which college he graduated July 16, 1887, after which he entered the Gouverneur Street Hospital, a branch of Bellevue Hospital, where he remained until the spring of 1889, when he commenced private practice in the city of Hartford. In June, 1890, he was married to Miss Elizabeth Dowling of Jersey City Heights, a most estimable young lady. January, 1891, saw him appointed town physician, to which position he was re-elected in the beginning of the present year.

Dr. McNamara was thoroughly attached to his profession, and like the true physician considered its interests secondary to his own.

The interest of others was his at all times, and as was shown just previous to his illness, selfishness was not an ele-

ment in his character, as he sacrificed his health and life for the welfare of others. In disposition he was gentle and affectionate, but if at times impulsive, it was an impulsiveness of but a transient nature and was soon displaced by forgiving manifestations.

To speak of him as a man it is only necessary to say he was at all times characterized by manliness, and as a Christian he was thoroughly conscientious, corresponding to the duties of his church with the same conciseness as all who realize that complete happiness is not in this life.

ELISHA PHINNEY, M.D.

BY PATRICK CASSIDY, M.D., NORWICH.

All that was mortal of Dr. Elisha Phinney is forever hidden from our view. It only remains for one who has known him more than twenty-eight years, professionally and as a friend, to endeavor in a slight degree to perpetuate his memory by this short tribute to his worth.

Elisha Phinney was born in the town of Canterbury, Connecticut, in March, 1809. He studied medicine in the office of the late Dr. Elijah Dyer, of Norwich. He graduated in medicine at Yale in 1834. The same year he settled at Yantic, a village four miles north of Norwich, where he continued to practice uninterruptedly until his death, a period of fifty-eight years, except during the nine months that he served as first assistant surgeon of the Twenty-sixth Regiment, Connecticut Volunteers, during the late civil war. His practice was extensive, reaching through the towns of Norwich, Franklin and Bozrah. The worth and the esteem in which he was held by his patients is best told by a correspondent, who wrote in the local paper on the eve of his death the following: "Dr. Phinney was a man of the warmest sympathies. He will be greatly missed and sincerely mourned. His love for humanity took from disease and suffering all its unattractive attributes and made his patients as dear to him as those of his own household. His loving tenderness in a sick-room was beyond praise; his bright cheerfulness and his sunny smile have brought comfort and encouragement to many a bed-side. His personal abilities have been recognized in all the positions he has been called to fill, and the high standard of excellence reached in his exceptional qualifications as a physician is wholly due to his faithful, efficient and vigorous work."

Dr. Phinney was twice married. His first marriage was in

1836, to Lucy M. Waterman, who died in 1856. In 1866 he married Mrs. Mary W. Willis, who died in 1884, childless. Three children by his first wife survive him; two daughters and one son.

During the nine months that the Doctor served with the Twenty-sixth Connecticut Volunteers he rendered efficient services with his regiment at Port Hudson. Whilst aboard a transport on the Mississippi in 1863, he had for a patient an insane soldier, who, in his mania, struck the Doctor on the left side of the head. Cerebral concussion, followed by inflammation, incapacitated him for many months; indeed, his nervous system never fully recovered from the effects of the injury. He died October 11, 1892, aged eighty-three years. The Doctor was a member of the Episcopal church from early youth and he died a communicant of that faith.

MEMBERS OF THE SOCIETY.

MEMBERS OF THE SOCIETY.

HONORARY MEMBERS.

OLIVER WENDELL HOLMES,	-	Boston, Mass.
GEORGE CHANDLER,	- - -	Worcester, Mass.
ANDREW JACOB FULLER,	- - -	Bath, Maine.
SAMUEL HAYES PENNINGTON,	-	Newark, N. J.
ARTHUR WARD,	- - -	Newark, N. J.
PAUL AUGUSTINE STACKPOLE,	-	Dover, N. H.
ADRIAN THEODORE WOODWARD,	-	Brandon, Vt.
BENJAMIN EDDY COTTING,	-	Boston, Mass.
SAMUEL THOMAS HUBBARD,	-	New York City.
GEORGE FIRMAN HORTON,	-	Terrytown, Pa.
AGRIPPA NELSON BELL,	- - -	Brooklyn, N. Y.
EDWARD CONSTANT SEGUIN,	-	Providence, R. I.
JOHN SHAW BILLINGS, U. S. A.,	-	Washington, D. C.
JAMES EDMUND REEVES,	- - -	Chattanooga, Tenn.
THOMAS ADDIS EMMET,	- - -	New York City.
EDWIN MOTT MOORE,	- - -	Rochester, N. Y.
WILLIAM HENRY WELCH,	- - -	Baltimore, Md.
ROBERT FULTON WEIR,	- - -	New York City.
SIR JOSEPH LISTER,	- - -	London, Eng.
EDWARD G. JANEWAY,	- - -	New York City.
EDWARD R. SQUIBB,	- - -	Brooklyn, N. Y.

ACTIVE MEMBERS.

The names of those who have been Presidents are in Capitals.

HARTFORD COUNTY.

W. A. M. WAINWRIGHT, M.D., of Hartford, President.

JOSEPH E. ROOT, M.D., of Hartford, Clerk.

County Reporter—CHARLES C. BEACH, M.D., of Hartford.

Censors—M. STORRS, M.D., R. W. GRISWOLD, M.D.,

G. W. AVERY, M.D.

Annual Meeting, third Wednesday in April.

HARTFORD:

G. W. RUSSELL, No. 207 Farmington Avenue.

David Crary, No. 490 Main Street.

P. W. Ellsworth, No. 123 Pearl Street.

A. W. BARROWS, No. 189 High Street.

P. M. Hastings, No. 130 Capitol Avenue.

Henry P. Stearns, No. 190 Retreat Avenue.

Irving W. Lyon, No. 26 Buckingham Avenue.

MELANCTHON STORRS, No. 91 Ann Street.

Horace S. Fuller, No. 95 Trumbull Street.

John O'Flaherty, No. 8 Linden Place.

Nathan Mayer, No. 268 Main Street.

William M. Hudson, No. 105 Elm Street.

George C. Jarvis, No. 98 High Street.

W. A. M. Wainwright, No. 199 Main Street.

David Crary, Jr., No. 490 Main Street.

J. B. Lewis, No. 56 Prospect Street.

D. T. Bromley, No. 123 Pearl Street.

George P. Davis, No. 56 Prospect Street.

James Campbell, No. 34 Congress Street.

G. W. Avery, No. 3 Pratt Street.

C. E. Frœlich, No. 49 Pratt Street.

John Dwyer, No. 19 Asylum Street.

Harmon G. Howe, No. 51 Church Street.

W. T. Bacon, No. 3 Pratt Street.

W. W. Knight, No. 105½ Trumbull Street.

T. D. Crothers, Fairfield Avenue.

George L. Parmele, No. 25 Pratt Street.

Ellen F. H. Gladwin, No. 705 Asylum Street.

S. B. St. John, No. 43 Pratt Street.

George R. Shepherd, No. 32 Farmington Avenue.

F. S. Crossfield, No. 136 Trumbull Street.

M. M. Johnson, No. 80 Pearl Street.

William D. Morgan, No. 39 Pearl Street.

J. F. Axtelle, No. 211 Main Street.

Noah Cressy, No. 36 State Street.

William J. Lewis, No. 56 Prospect Street.
 G. K. Welch, No. 94½ Trumbull Street.
 P. H. Ingalls, No. 112 High Street.
 E. K. Root, No. 238 Main Street.
 L. A. Davison, No. 3 Pratt Street.
 John Howard, No. 321 Main Street.
 C. D. Alton, No. 86 Farmington Avenue.
 Oliver C. Smith, No. 40 High Street.
 J. E. Root, No. 74 Pearl Street.
 William Porter, Jr., No. 391 Allyn Street.
 J. J. Morrissey, No. 643 Main Street.
 Frederick T. Simpson, No. 122 High Street.
 George R. Miller, No. 103 Trumbull Street.
 Charles C. Beach, No. 119 High Street.
 G. C. Segur, No. 1566 Broad Street.
 G. C. Bailey, No. 65 Church Street.
 A. E. Abrams, No. 78 High Street.
 C. E. Taft, No. 230 Main Street.
 S. B. Childs, No. 18 Pratt Street.
 Thomas F. Kane, No. 141 Main Street.
 A. J. Wolff, No. 71 Capitol Avenue.
 A. G. Cook, No. 55 Church Street.
 Thomas Turnbull.
 Mrs. L. Darnstadt Kean.
 C. A. Fox, No. 925 Main Street.
 E. A. Down, No. 190 Retreat Avenue.

BERLIN:

R. E. Ensign,
 Charles A. Gillin.

BLOOMFIELD:

Henry Gray.

BRISTOL:

Henry E. Way,
 J. J. Wilson,
 W. W. Horton.

BURNSIDE:

George E. Markham.

CANTON,—Collinsville:

G. F. Lewis,
 H. S. Warner,
 I. F. Barnes,
 Ida Rachel Gridley.

EAST HARTFORD:

E. J. McKnight,
 Wm. R. Sedgwick,
 E. H. Griswold.

EAST WINDSOR,—Broadbrook:

H. O. Allen.

ENFIELD,—Thompsonville:

Edward F. Parsons,
 Rial L. Strickland,
 George T. Finch,
 John F. Dowling.

FARMINGTON:

Frank Wheeler,
 Charles Carrington.

GLASTONBURY:

H. C. Bunce.
 South Glastonbury:
 H. M. Rising.

HAZARDVILLE:

S. W. Houghton.

MANCHESTER:

F. H. Whiton,
 B. S. Barrows.
 South Manchester:
 J. N. Parker,
 W. R. Tinker.

NEW BRITAIN:

B. N. COMINGS,
 George Clary,
 E. B. Lyon,
 J. S. Stone,
 Erastus P. Swasey,
 M. J. Coholan,
 G. J. Holmes,
 L. M. Cremin,
 Edward Burns,
 Horace C. Deane,
 W. T. Bunnell,
 Sam'l Wellington Irving,
 John Baptist Poyer.

PLAINVILLE:

T. G. Wright,
J. N. Bull.

ROCKY HILL:

R. W. Griswold.

SIMSBURY:

G. W. Sanford.

TARIFFVILLE:

Charles Wooster.

SOUTHINGTON:

I. P. Fiske,
G. W. Steadman.

SUFFIELD:

J. K. Mason,
M. T. Newton.

WETHERSFIELD:

A. S. Warner,
Roswell Fox,
Edward G. Fox,
Arthur Wayland Howard.

WINDSOR:

S. A. Wilson,
Newton S. Bell.

WINDSOR LOCKS:

S. R. Burnap. —118.

NEW HAVEN COUNTY.

S. D. GILBERT, M.D., of New Haven, President.

W. L. BARBER, M.D., of Waterbury, Vice President.

J. H. TOWNSEND, M.D., of New Haven, Clerk.

County Reporter—R. B. GOODYEAR.

Censors—O. J. D. HUGHES, M.D., W. W. HAWKES, M.D.,
E. D. SWIFT, M.D.

Annual Meeting, third Thursday in April; semi-annual, third Thursday in October.

NEW HAVEN:

David L. Daggett, No. 60 Wall Street.
HENRY BRONSON, No. 1198 Chapel Street.
S. G. Hubbard, No. 23 College Street.
C. A. LINDSLEY, No. 15 Elm Street.
John Nicoll, No. 11 College Street.
Moses C. White, No. 48 College Street.
H. Pierpont, No. 264 York Street.
Leonard J. Sanford, No. 216 Crown Street.
F. L. Dibble, No. 139 Elm Street.
T. H. Bishop, No. 215 Church Street.
FRANCIS BACON, No. 32 High Street.
W. L. Bradley, No. 203 Crown Street.
A. E. Winchell, No. 20 Pearl Street.
Robert S. Ives, No. 247 Temple Street.
Evelyn L. Bissell, No. 8 Orange Street.
Arthur Ruickoldt, No. 71 Olive Street.
Walter Judson, No. 1145 Chapel Street.
D. C. Leavenworth, No. 75 Howe Street.
Frederick Bellosa, No. 126 Court Street.
S. H. Chapman, No. 193 Church Street.
J. P. C. Foster, No. 109 College Street.
F. O. White, No. 514 Howard Avenue.

W. H. Carmalt, No. 87 Elm Street.
 M. A. Cremin, No. 129 Olive Street.
 T. H. Russell, No. 137 Elm Street.
 F. H. Whittemore, No. 224 Orange Street.
 C. P. Lindsley, No. 37 Elm street.
 H. Fleischner, No. 928 Grand Avenue.
 M. Mailhouse, No. 151 Meadow Street.
 M. C. O'Connor, No. 625 Grand Avenue.
 A. W. Leighton, No. 215 York Street.
 Charles E. Park, No. 132 Olive Street.
 F. E. Beckwith, No. 139 Church Street.
 Gustavus Eliot, No. 209 Church Street.
 J. E. Stetson, No. 106 High Street.
 J. F. Luby, No. 667 Grand Avenue.
 William W. Hawkes, No. 35 High Street.
 Frank H. Wheeler, No. 188 Crown Street.
 Herbert E. Smith, Medical College.
 Benjamin L. Lambert, Portsea Street.
 Clarence L. Fitch, No. 155 Wooster Street.
 F. W. Wright, No. 48 Pearl Street.
 W. H. Thompson, No. 1 Atwater, Cor. Grand Ave.
 S. D. Gilbert, No. 29 Wall Street.
 Edward K. Roberts, No. 244 Grand Avenue.
 Oliver T. Osborne, No. 252 York Street.
 Lucy M. Peckham, No. 144 Green Street.
 William G. Daggett, No. 22 College Street.
 Louis S. DeForest, No. 261 Orange Street.
 Henry L. Swain, No. 200 York Street.
 Charles H. Brockett, No. 35 York Street.
 Mary B. Moody.
 E. G. Madden, No. 308 Columbus Avenue.
 G. F. Converse, No. 49 Dixwell Avenue.
 J. H. Townsend, Howe Street.
 Charles H. Howland, No. 139 Whalley Avenue.
 R. B. West, York Street.
 T. M. Cahill, Franklin Street.
 C. J. Foot, No. 305 Howard Avenue.
 Marvin Smith, No. 4 Pearl Street.
 S. J. Maher, No. 150 College Street.
 Jay W. Seaver.
 Lewis R. Bishop.
 H. W. Ring, No. 46 Elm Street.
 W. C. Welch, No. 59 Wall Street.
 A. O. Barribault.
 J. F. Baker.
 Rollin McNeil.
 Edward M. McCabe.
 James M. Reilly.
 Clarence E. Skinner.
 N. R. Hotchkiss.
 Benjamin A. Cheney.
 Charles A. Tuttle.
 Harvey A. Elcock.
 Louis J. Gaynor.
 Harry B. Ferris.

Westville:

A. W. Marsh.

ANSONIA:

Edward W. Warren,
Louis E. Cooper.

BRANFORD:

C. W. Gaylord,
Walter Zink,
A. J. Tenney.

CHESHIRE:

M. N. Chamberlin,
E. T. Cornwall.

DERBY:

Charles H. Pinney.

BIRMINGHAM:

T. J. O'Sullivan,
F. N. Loomis.

GUILFORD:

R. B. West.

HAMDEN:

E. D. Swift,
*O. F. Treadwell,
G. H. Joslin.

MADISON:

D. M. Webb.

MERIDEN:

Asa H. Churchill,
C. H. S. Davis,
N. Nickerson,
A. W. Tracy,
E. T. Bradstreet,
Anna J. Ferris,
J. D. Eggleston,
Edward W. Smith,
O. J. D. Hughes,
Ava H. Fenn,
E. W. Pierce,
B. D. Stone,
F. P. Griswold,
E. D. Hall,
B. D. Ryce,
H. W. Deslodernier,
H. A. Meeks.

MILFORD:

Hull Allen,
E. B. Heady.

NAUGATUCK:

Frank B. Tuttle,
Thomas M. Bull,
Frederic Spring,
James W. Robbins.

NORTH HAVEN:

R. B. Goodyear.

ORANGE,—West Haven:

J. F. Barnet,
William V. Wilson,
Durell Shephard,
R. M. Griswold.

OXFORD:

Lewis Barnes.

SEYMOUR:

Frank A. Benedict.

SOUTHBURY:

Augustin A. Crane.

WALLINGFORD:

A. S. Houghton,
J. D. McGaughey,
C. H. Atwater,
William S. Russell.

WATERBURY:

Alfred North,
Edward L. Griggs,
F. E. Castle,
E. W. McDonald,
Walter H. Holmes,
Walter L. Barber,
C. W. S. Frost,
F. M. Cannon,
Charles S. Rodman,
J. M. Benedict,
Thomas L. Axtelle,
Carl E. Munger,
Bernard O'Hara,
John F. Hayes,
Caroline R. Conkey,
M. J. Donahue,
H. S. Wildman,
Nicholas J. Hanlon.—152

NEW LONDON COUNTY.

GEORGE H. JENNINGS, M.D., of Jewett City, President.

JULIAN LAPIERRE, M.D., 220 Central Ave., Norwich, Clerk.

County Reporter—JULIAN LAPIERRE, M.D., of Norwich.

Censors—L. S. PADDOCK, M.D., WM. M. BURCHARD, M.D.

Annual Meeting, first Thursday in April; semi-annual, first Thursday in October.

*P. O. New Haven.

COLCHESTER :

Myron W. Robinson,
A. J. Crighton.

EAST LYME,—Niantic :

Frederick H. Dart.

GRISWOLD,—Jewett City :

George H. Jennings.

LYME :

James L. Terry,
George W. Harris.

MONTVILLE :

*John C. Bolles,
Earl Mathewson.

Uncasville :

William M. Burchard.

NEW LONDON :

A. W. Nelson,
F. N. Braman,
J. G. Stanton,
F. J. Beckwith,
J. E. Cronin,
Charles B. Graves,
Joseph B. Crofton,
Merritt S. Ferguson,
Elisha Munger.

NORWICH :

Lewis S. Paddock,
William Witter,
William S. C. Perkins,
Patrick Cassidy,
ELIJAH C. KINNEY,
L. B. Almy,
Anthony Peck,
Julian LaPierre,
E. P. Brewer,
N. P. Smith,
Patrick H. Harriman,
W. K. Tingley,
W. T. Browne,
George R. Harris,
William Fairbanks,
Charles H. Perkins.

STONINGTON :

George E. Brayton,
George D. Stanton.

Mystic :

*Albert T. Chapman.

Mystic Bridge :

Frank A. Coates,
A. M. Purdy.

TAFTVILLE :

George Thompson.

VOLUNTOWN :

Warren Russell Davis.

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FAIRFIELD COUNTY.

FRANCIS J. YOUNG, M.D., of Bridgeport, President.

A. M. HURLBUTT, M.D., of Stamford, Vice President.

L. T. DAY, M.D., of Westport, Clerk.

County Reporter—W. H. DONALDSON, M.D., of Fairfield.

Censors—G. L. PORTER, M.D., W. C. WILE, M.D.,

J. G. GREGORY, M.D.

Annual Meeting, second Tuesday in April, at Bridgeport; semi-annual in October.

BETHEL :

A. E. Barber,
Austin E. May.

BRIDGEPORT :

ROBERT HUBBARD,
Andrew J. Smith,
GEORGE L. PORTER,
Robert Lauder,
Francis J. Young,
Curtis H. Bill,
N. E. Wordin,

F. M. Wilson,
T. F. Martin,
W. H. Bunnell,
Willis Cummings,
F. B. Downs,
Mary J. Rising Young,
W. C. Bowers,
F. A. Rice,
J. W. Wright,
A. W. Lyons,
A. A. Holmes,

*Exempted from taxation.

Charles C. Godfrey,
S. M. Garlick,
Henry Blodget,
J. C. Lynch,
C. C. Hoyt,
G. W. Osborn,
J. R. Topping,
B. W. White,
Jacob May,
F. C. Graves,
G. B. Cowell,
C. I. Page,
C. N. Haskell,
Frank L. Smith,
George E. Ober.

BROOKFIELD:

*A. L. Williams,
Junius F. Smith.

DANBURY:

F. P. Clark,
A. T. Clason,
Wm. F. Lacey,
E. E. Snow,
E. A. Stratton,
W. S. Watson,
A. L. Scott,
George H. Pierce,
William C. Wile,
D. Chester Brown,
W. A. Follansbee,
Richard Ellis,
H. F. Brownlee,
George R. Hawley,
D. C. DeWolfe.

DARIEN,—Noroton:

William F. French,
WM. G. BROWNSON.

FAIRFIELD:

W. H. Donaldson.

Greenfield Hill:

M. V. B. Dunham.

Southport:

C. H. Osborne.

GREENWICH:

W. L. Griswold,
T. M. Franklin,
Spencer Franklin.

HUNTINGTON,—Shelton:

Gould A. Shelton,
D. A. Richardson.

MONROE:

John G. Stevens.

Stepney:

Seth Hill.

NEW CANAAN:

W. C. Brownson.

NEWTOWN:

Edward M. Smith.

NORWALK:

James G. Gregory,
R. L. Higgins,
S. H. Huntington.

South Norwalk:

George W. Benedict,
W. C. Burke, Jr.,
A. N. Clark.

East Norwalk:

Frederick B. Baker.

REDDING,—Georgetown:

R. W. Lowe.

RIDGEFIELD:

William S. Todd,
Willis E. Weed.

STAMFORD:

H. P. Geib,
Henry Hungerford,
A. M. Hurlbutt,
Samuel Pierson,
A. N. Phillips,
C. R. Hexamer,
P. P. Van Vleet,
F. H. Schavoir,
Wm. A. B. Treadway,
Lawrence S. Buckley,
F. P. Rogers,
C. S. Darby, Jr.,
E. J. Meeks.

STRATFORD:

W. B. Cogswell,
G. Fred. Lewis.

WESTON,—Lyon's Plain:

F. Gorham.

WESTPORT:

George B. Bouton,
F. Powers,
Loren T. Day,
F. D. Rulund.

WILTON:

A. B. Gorham.

WINDHAM COUNTY.

E. H. DAVIS, M.D., of Plainfield, President.

CHARLES E. HILL, M.D., of East Killingly, Vice President.

F. A. MORRELL, M.D., of Putnam, Clerk.

County Reporter—FRANK E. GUILD, M.D., of Windham.

Censors—C. E. HILL, M.D., OMER LaRUE, M.D.,

R. ROBINSON, M.D.

BROOKLYN :

A. H. Tanner.

KILLINGLY :

Ashael E. Darling,
Henry F. Hammond.

Danielsonville :

Rienzi Robinson,
Nathaniel Hibbard,
W. H. Judson.

East Killingly :

Edwin A. Hill,
Charles E. Hill.

PLAINFIELD,—Moosup :

William A. Lewis,
Charles N. Allen,
E. H. Davis.

Central Village :

Charles H. Rogers.

POMFRET :

Frederick G. Sawtelle,
Frederick W. Chapin.

PUTNAM :

*H. W. Hough,
John B. Kent,

F. A. Morrell,
Omar LaRue,
H. A. Sherman,
Warren W. Foster.

SCOTLAND :

E. Dwight Kimball.

THOMPSON :

LOWELL HOLBROOK.

WINDHAM :

F. E. Guild.

Willimantic :

Frederick Rogers,
T. MORTON HILLS,
O. B. Griggs,
C. J. Fox,
T. R. Parker,
Samuel David,
Everett D. Card,
John Weldon,
James Jay Smith,
A. D. David,
C. H. Girard,
R. C. White.

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LITCHFIELD COUNTY.

WILLIAM J. FORD, M.D., of Washington, President.

FREDERICK H. WIGGIN, M.D., of Litchfield, Vice President.

JAMES T. SEDGWICK, M.D., of Litchfield, Clerk.

County Reporter—JOHN L. BUEL, M.D., of Litchfield.

Censors—J. W. BIDWELL, M.D., WM. DEMING, M.D.,

ORLANDO BROWN, M.D.

Annual Meeting, second Tuesday in October; semi-annual, fourth Tuesday in April.

CANAAH :

C. W. Camp.

GOSHEN :

J. H. North.

*Exempted from taxation.

ALPHABETICAL LIST

OF THE

MEMBERS OF THE CONNECTICUT MEDICAL SOCIETY,

With Date and Place of Graduation, and Post-Office Address.

Name.	Medical Graduation.	P. O. Address.
Abrams, Alva Elnathan,	Albany, 1881,	Hartford.
Allen, Charles Noah,	Univ. Vt., 1881,	Moosup.
Allen, Howard Oliver,	Univ. N. Y., 1879,	Broad Brook.
Allen, Hull,	Univ. St. N. Y., '21,	Milford.
Almy, Leonard Ballou, B.A., '72,	Bellevue, 1876,	Norwich.
Alton, Charles De Lancey,	Bellevue, 1875,	Hartford.
Atwater, Caleb Huntington,	P. & S., N. Y., '71,	Wallingford.
Avery, George Whitefield,	Yale, 1861,	Hartford.
Axtelle, John Franklin,	L. I. Coll. Hosp., '71,	Hartford.
Axtelle, Thomas Lincoln,	Bellevue, 1881,	Waterbury.
Bacon, Francis,	Yale, 1853,	New Haven.
Bacon, Wm. Turner, B.A., M.A., '68,	Univ. N. Y., 1871,	Hartford.
Bacon, George Cornelius,	Univ. N. Y., 1886,	Hartford.
Bailey, John Elmore,	P. & S., N. Y., '85,	Middletown.
Baker, Frederick Birdseye,	Univ. Md., 1888,	East Norwalk.
Baker, John Francis,	L. I. Coll. Hosp., '89,	New Haven.
Baldwin, Edward Robinson,	Yale, 1890,	Cromwell.
Barber, Alvin Elizur,	Berkshire, 1854,	Bethel.
Barber, Walter Lewis,	Bellevue, 1873,	Waterbury.
Baribault, Arthur Octave,	Vict. Med. Coll., '89,	New Haven.
Barnes, Irving Ferguson,	Univ. N. Y., 1890,	Collinsville.
Barnes, Lewis, B.A., M.A., '47,	Buffalo Univ., 1850,	Oxford.
Barnett, John Frederick,	Yale, 1869,	West Haven.
Barrows, Ashbel Ward,	Yale, 1841,	Hartford.
Barrows, Benj. Safford, Ph.B., '83,	Univ. N. Y., 1887,	Manchester.
Beach, Charles Coffing,	P. & S., N. Y., '82,	Hartford.
Beckwith, Frank Edwin, M.A., '81,	P. & S., N. Y., '71,	New Haven.
Beckwith, Fred'k Jason, B.A., '78,	Harvard, 1882,	New London.
Belden, Charles Ogilvie,	P. & S., N. Y., '82,	Litchfield.
Bell, Newton Stephen,	Univ. Vt., 1864,	Windsor.
Bellosa, Frederick,	Yale, 1872,	New Haven.
Benedict, Frank Allen,	P. & S., N. Y., '87,	Seymour.
Benedict, George Willis, B.A., '74,	P. & S., N. Y., '78,	South Norwalk.
Benedict, John Mitchell,	Univ. N. Y., 1882,	Waterbury.
Bidwell, Edwin,	Yale, 1847,	Deep River.
Bidwell, John Welch,	Berkshire, 1846,	West Winsted.

Name.	Medical Graduation.	P. O. Address.
Bill, Curtis Harvey,	Univ. N. Y., 1859,	Bridgeport.
Bishop, Louis Bennett, B.A., '86,	Yale, 1888,	New Haven.
Bishop, Timothy Huggins,	Yale, 1860,	New Haven.
Bissell, Evelyn Lyman,	Yale, 1860,	New Haven.
Bissell, William, B.A., '53,	Yale, 1856,	Lakeville.
Blodgett, Henry,	Bellevue, 1881,	Bridgeport.
Bloomfield, Thomas Blanch,	P. & S., N. Y., '76,	Westbrook.
Bolles, John Calvin,	Vt. Med. Coll., '40,	Montville.
Bouton, George Beriah,	Y., '56; N. Y. M., '56,	Westport.
Bowers, William Cutler,	P. & S., N. Y., '77,	Bridgeport.
Bradley, Wm. Lockwood, B.A., '60,	Yale, 1864,	New Haven.
Bradstreet, Edw'd Thos., B.A., '74,	P. & S., N. Y., '77,	Meriden.
Braman, Francis Nelson,	Bellevue, 1866,	New London.
Brayton, Charles Erskine,	P. & S., N. Y., '73,	Stonington.
Brewer, Edward Pliny, Ph.D.,	Dartmouth, 1879,	Norwich.
Brockett, Charles Henry,	Yale, 1886,	New Haven.
Bromley, Daniel Tyler,	Yale, 1867,	Hartford.
Bronson, Henry, M.A., '40,	Yale, 1827,	New Haven.
Brown, David Chester,	Yale, 1884,	Danbury.
Brown, Orlando,	Yale, 1851,	Washington.
Browne, William Tyler, Ph.B., '78,	Harvard, 1882,	Norwich.
Brownlee, Harris Fenton,	P. & S., N. Y., '88,	Danbury.
Brownson, William Clarence,	Univ. N. Y., 1878,	New Canaan.
Brownson, William Greene, M.A.,	Univ. N. Y., 1865,	New Canaan.
Buckley, Lawrence Stephen,	Dartmouth, '89,	Stamford.
Buel, Henry Wadhams, B.A., '44,	P. & S., N. Y., '47,	Litchfield.
Buel, John Laidlaw,	P. & S., N. Y., '88,	Litchfield.
Bull, John Norris,	P. & S., N. Y., '78,	Plainville.
Bull, Thomas Marcus,	P. & S., N. Y., '87,	Naugatuck.
Bunce, Henry Clinton,	Yale, 1850,	Glastonbury.
Bunnell, Wilbur Pitkin,	Univ. N. Y., 1884,	New Britain.
Bunnell, William Henry,	P. & S., N. Y., '79,	Bridgeport.
Burchard, William Metcalf,	Georgetown, 1866,	Uncasville.
Burke, George Whitney, B.A., '39,	Yale, 1843,	Middletown.
Burke, William Craige,	L. I. Coll. Hosp., '75,	South Norwalk.
Burnap, Sidney Rogers, A.B., '58,	P. & S., N. Y., '62,	Windsor Locks.
Burns, Edward,	Univ. N. Y., 1882,	New Britain.
Burtch, Harry Mercein,	Albany, 1882,	Salisbury.
Burwell, Jeremiah,	Berkshire, 1839,	New Hartford.
Cahill, Thomas Matthew,	Yale, 1888,	New Haven.
Calef, Jeremiah Francis, B.A., '77,	Yale, 1880,	Cromwell.
Camp, Charles Welford,	Univ. N. Y., 1875,	Canaan.
Campbell, Arthur Joseph,	P. & S., Balt., 1885,	Middletown.
Campbell, James,	Univ. Vt., 1871,	Hartford.
Cannon, Frederick Miller,	Univ. N. Y., 1867,	Waterbury.
Card, Everett De Los Clark,	Univ. N. Y., 1882,	Willimantic.
Carmalt, William Henry, M.A., '81,	P. & S., N. Y., '61,	New Haven.
Carrington, Charles,	P. & S., N. Y., '60,	Farmington.
Cassidy, Patrick,	Univ. Vt., 1865,	Norwich.
Castle, Frank Edwin,	Yale, 1870,	Waterbury.
Chamberlain, Myron Newton,	} Yale, 1866,	Cheshire.
B.A., '57,		
Chapin, Frederick Windle,	Bellevue, 1879,	Pomfret.
Chapman, Albert Taylor,	P. & S., N. Y., '64,	Mystic.
Chapman, Sherman Hartwell,	} P. & S., N. Y., '69,	New Haven.
B.A., '63; M.A., '66,		
Cheney, Benjamin Austin, B.A., '88,	Yale, 1890,	New Haven.

Name.	Medical Graduation.	P. O. Address.
Childs, Samuel Beresford,	Univ. N. Y., 1887,	Hartford.
Churchill, Asa Hopkins,	Yale, 1857,	Meriden.
Clark, Arthur Norman,	P. & S., N. Y., '83,	South Norwalk.
Clark, Franklin Pierce,	P. & S., N. Y., '76,	Danbury.
Clary, George, A.B., '52,	N. Y., '57; Yale, '57,	New Britain.
Clason, Abraham Travis,	Univ. N. Y., 1866,	Danbury.
Cleaveland, Daniel Athearn,	Bowdoin, 1856,	Middletown.
Coates, Frederick Avery,	}	P. & S., N. Y., '75, Mystic Bridge.
A.B., '72; A.M.,		
Cogswell, William Badger,	Bellevue, 1881,	Stratford.
Coholan, Michael James,	Univ. N. Y., 1865,	New Britain.
Coleburn, Arthur Burr,	P. & S., N. Y., '90,	Middletown.
Comings, Benjamin Newton,	Castleton, Vt., '45,	New Britain.
Conkey, Caroline Root,	W. Med., N. Y., '81,	Waterbury.
Converse, George Frederick,	Yale, 1887,	New Haven.
Cook, Ansel Granville,	P. & S., N. Y., '87,	Hartford.
Cooper, Louis Edward, Ph.B. '84,	Yale, 1886,	Ansonia.
Cornwall, Edward Thomas,	P. & S., N. Y., '81,	Cheshire.
Cowell, George B.,	P. & S., N. Y., '88,	Bridgeport.
Crane, Augustine Averill, B.A., '85,	Yale, 1887,	Southbury.
Crary, David,	Castleton, Vt., '34,	Hartford.
Crary, David, Jr.,	Yale, 1869,	Hartford.
Cremin, Lawrence Michael,	Univ. N. Y., 1881,	New Britain.
Cremin, Michael Aloysius,	P. & S., N. Y., '75,	New Haven.
Cressy, Noah, Ph.D.,	Berkshire, 1862,	Hartford.
Crichton, Andrew John,	P. & S., Balt., '91,	Colchester.
Crofton, Joseph Richard,	P. & S., N. Y., '89,	New London.
Cronin, Joseph Francis,	P. & S., N. Y., '83,	New London.
Crossfield, Frederick Solon,	Bellevue, 1878,	Hartford.
Crothers, Thomas Davison,	Albany, 1865,	Hartford.
Crowley, William Hohnes,	Buff. Med. Coll., '90,	Collinsville.
Cummings, William Willis,	Univ. N. Y., 1882,	Bridgeport.
Daggett, David Lewis, B.A., '39,	Yale, 1843,	New Haven.
Daggett, Wm. Gibbons, B.A., '80,	Univ. Pa., 1884,	New Haven.
Darby, Charles Sinclair,	Charlest'n Med., '60,	Stamford.
Darby, Charles Sinclair, Jr.,	Univ. N. Y., 1890,	Stamford.
Darling, Asael Ebenezer,	Harvard, 1872,	Killingly.
Dart, Frederick Howard,	P. & S., N. Y., '84,	Niantic.
David, Adélar David,	Dartmouth, 1889,	Willimantic.
David, Samuel,	Vict. Med. Coll., '46,	Willimantic.
Davis, Charles Henry Stanley,	Univ. N. Y., 1866,	Meriden.
Davis, Edwin Taylor,	Univ. Vt., 1888,	Ellington.
Davis, Emory Hawkins,	Univ. Vt., 1872,	Moosup.
Davis, Gustav. Pierrepont, B.A., '66,	P. & S., N. Y., '69,	Hartford.
Davis, Warren Russell,	Univ. Vt., 1882,	Voluntown.
Davison, Luther Augustus,	Univ. N. Y., 1882,	Hartford.
Day, Loren True,	Yale, 1880,	Westport.
Dean, Henry Spalding,	Jefferson, 1852,	South Coventry.
Dean, Horace Camillus,	Univ. N. Y., 1885,	New Britain.
DeForest, Louis Shepard,	}	Univ. Jena, 1885, New Haven.
B.A., '79; M.A., '91,		
Delesdernier, Horace William,	Univ. Vt., 1885,	Meriden.
DeWolfe, Daniel Charles,	Univ. Vt., 1883,	Bridgeport.
Dibble, Frederick Levi,	Yale, 1859,	New Haven.
Dickinson, Francis Lemuel,	Yale, 1840,	Rockville.
Donahue, Michael Joseph,	Univ. Pa., 1886,	Waterbury.
Donaldson, William Henry,	Univ. N. Y., 1881,	Fairfield.

Name.	Medical Graduation.	P. O. Address.
Dowling, John Francis,	L. I. Coll. Hosp., '90,	Thompsonville.
Down, Edwin Augustus,	P. & S., N. Y., '87,	Hartford.
Downs, Frederick Bradley,	Univ. N. Y., 1878,	Bridgeport.
Dunham, Martin Van Buren,	Harvard, 1867,	Greenfield Hill.
Dwyer, John,	Univ. N. Y., 1871,	Hartford.
Edgerton, Francis Daniels,	Univ. Vt., '61;	} Middletown.
A.M., '61,	P. & S., N. Y., '64,	
Eggleston, Jeremiah Dewey,	P. & S., N. Y., '79,	Meriden.
Elcock, Harry Alfred,	Yale, 1891,	New Haven.
Eliot, Gustavus, B.A., '77; A.M., '82,	P. & S., N. Y., '80,	New Haven.
Ellis, Richard,	P. & S., N. Y., '88,	Danbury.
Ellsworth, Pinckney Webster,	} P. & S., N. Y., '39,	Hartford.
B.A., '36; M.A.,		
Ensign, Robert Eleazer,	Albany, 1857,	Berlin.
Fairbanks, William,	Bellevue, 1891,	Norwich.
Fenn, Ava Hamlin,	P. & S., Balt., '86,	Meriden.
Ferguson, George Dean,	Univ. N. Y., 1879,	Thomaston.
Ferguson, Merritt Sidney,	Univ. Vt., 1875,	New London.
Ferris, Anna Jackson,	Wom. Med., Pa., '74,	Meriden.
Ferris, Harry Burr, B.A., '87,	Yale, 1890,	New Haven.
Field, Albert,	L. I. Coll. Hosp., '67,	East Hampton.
Finch, Geo. Terwilliger, B.A., M.A.,	Bellevue, 1877,	Thompsonville.
Fisher, William Edwin,	Univ. Pa., 1876,	Middletown.
Fiske, Isaac Parsons,	Univ. N. Y., 1875,	Southington.
Fitch, Clarence Lovell,	Dartmouth, 1881,	New Haven.
Fleischner, Henry,	Yale, 1878,	New Haven.
Flint, Eli Percival,	Yale, 1879,	Rockville.
Follansbee, Willard Francis,	P. & S., Chic., '86,	Danbury.
Foot, Charles Jenkins, B.A., '83,	Harvard, 1887,	New Haven.
Ford, William J.,	Univ. N. Y., 1884,	Washington.
Foster, John Pierpont Codrington,	} Yale, 1875,	New Haven.
B.A., '69,		
Foster, William Wooden,	Harvard, 1882,	Putnam.
Fox, Charles Anson,	P. & S., N. Y., '81,	Hartford.
Fox, Charles James,	Univ. N. Y., 1876,	Willimantic.
Fox, Edward Gager,	Univ. N. Y., 1883,	Wethersfield.
Fox, Roswell,	Univ. N. Y., 1847,	Wethersfield.
Franklin, Spencer,	Univ. N. Y., 1889,	Greenwich.
Franklin, Thomas Morris,	Univ. N. Y., 1847,	Greenwich.
French, Eugene Cowles,	Univ. Mich., 1882,	Watertown.
French, Wm. Freeman, B.A., M.A.,	Univ. N. Y., 1884,	Noroton.
Froelich, Charles Edward,	Copenhagen, 1870,	Hartford.
Frost, Charles Warren Selah,	P. & S., N. Y., '80,	Waterbury.
Fuller, Horace Smith,	} P. & S., N. Y., '65,	Hartford.
A.B., '58; A.M., '61,		
Garlick, Samuel Middleton,	Harvard, 1877,	Bridgeport.
Gaylord, Chas. Woodward, B.A., '70,	Yale, 1872,	Branford.
Gaynor, Louis Joseph,	Univ. N. Y., 1891,	New Haven.
Geib, Henry Phillip,	Bellevue, 1869,	Stamford.
Gilbert, Samuel Dutton, B.A., '69,	Yale, 1871,	New Haven.
Gillin, Charles Adelbert,	Univ. N. Y., 1883,	Berlin.
Gilnack, Frederick,	P. & S., N. Y., '67,	Rockville.
Girard, Charles Herménégilde,	Vict., Montreal, '90,	Willimantic.
Gladwin, Ellen Hammond,	W. Med., N. Y., '72,	Hartford.
Godfrey, Charles Cartlidge,	Dartmouth, 1883,	Bridgeport.

Name.	Medical Graduation.	P. O. Address.
Goodrich, Alfred Russell,	Berkshire, 1846,	Vernon.
Goodwin, Ralph Schuyler,	P. & S., N. Y., '66,	Thomaston.
Goodyear, Robert Beardsley,	Yale, 1868,	North Haven.
Gorham, Andrew Bennett,	Yale, 1879,	Wilton.
Gorham, Frank,	Yale, 1876,	Lyons Plain.
Grannis, John Henry,	Yale, 1868,	Old Saybrook.
Graves, Charles Burr, B.A., '82,	Harvard, 1886,	New London.
Graves, Frederick Chauncey,	Univ. N. Y., 1888,	Bridgeport.
Gray, Henry,	Dartmouth, 1848,	Bloomfield.
Gregory, James Glynn, B.A., '65,	P. & S., N. Y., '68,	Norwalk.
Gridley, Ida Rachel, A.M., '86,	P. & S., Bost., '89,	Collinsville.
Griggs, Edward Luther,	L. I. Coll. Hosp., '64,	Waterbury.
Griggs, Oliver Burnham,	Univ. N. Y., 1847,	Willimantic.
Griswold, Edward Hammond,	Univ. N. Y., 1878,	East Hartford.
Griswold, Frederick Pratt,	P. & S., N. Y., '76,	Meriden.
Griswold, Hamilton Byron,	Univ. Vt., 1886,	Gaylordsville.
Griswold, Roger Merwin,	Univ. N. Y., 1875,	West Haven.
Griswold, Rufus White,	P. & S., N. Y., '54,	Rocky Hill.
Griswold, Wm. Loomis, Ph.B., '81,	P. & S., N. Y., '85,	Greenwich.
Guild, Frank Eugene,	L. I. Coll. Hosp., '85,	Windham.
Hall, Edward Dormanio,	Harvard, 1873,	Meriden.
Hallock, Frank Kirkwood,	} P. & S., N. Y., '85,	Cromwell.
A.B., A.M., '82,		
Hallock, Winthrop Bailey,	L. I. Coll. Hosp., '64,	Cromwell.
Hammond, Henry Louis, Ph.B., '64,	Harvard, 1866,	Killingly.
Hanchett, Thatcher Swift,	Bellevue, 1864,	Torrington.
Hanlon, Nicholas J.,		Waterbury.
Harriman, Patrick Henry,	Univ. N. Y., 1884,	Norwich.
Harris, George Robert,	P. & S., N. Y., '85,	Norwich.
Harris, George Washington,	P. & S., N. Y., '57,	Lyme.
Haskell, Charles Nahum,	Univ. Vt., 1890,	Bridgeport.
Hastings, Panet Marshall,	} P. & S., N. Y., '42,	Hartford.
A.B., '38; A.M.,		
Haven, William Chadbourne,	Univ. N. Y., 1877,	Coventry.
Hawkins, Wm. Whitney, B.A., '79,	Yale, 1881,	New Haven.
Hawley, George Rufus,	L. I. Coll. Hosp., '92,	Danbury.
Hayes, John Francis,	Univ. N. Y., 1879,	Waterbury.
Hazen, Miner Comstock,	Univ. Mich., 1855,	Haddam.
Heady, Elias Buel,	Yale, 1872,	Milford.
Hexamer, Carl Reisig, B.S., '83,	P. & S., N. Y., '86,	Stamford.
Hibbard, Nathaniel, A.B., '78,	Harvard, 1882,	Danielsonville.
Higgins, Royal Lacey,	Bellevue, 1867,	Norwalk.
Higgins, William Lincoln,	Univ. N. Y., 1890,	South Coventry.
Hill, Charles Edwin, B.A., '76,	Harvard, 1879,	East Killingly.
Hill, Edwin Allen,	Harvard, 1850,	East Killingly.
Hill, Seth,	Yale, 1866,	Stepney.
Hills, Thomas Morton,	Yale, 1863,	Willimantic.
Holbrook, Lowell,	Univ. N. Y., 1849,	Thompson.
Holmes, Arthur Almond,	Harvard, 1865,	Bridgeport.
Holmes, George James,	Albany, 1882,	New Britain.
Holmes, Walter Hamilton, A.B., '75,	Harvard, 1879,	Waterbury.
Horton, William Wickham,	Univ. N. Y., 1879,	Bristol.
Hotchkiss, Norton R.,	Univ. Md., 1891,	New Haven.
Hough, Henry Wightman,	Yale, 1836,	Putnam.
Houghton, Alfred Swift,	P. & S., N. Y., '80,	Wallingford.
Houghton, Simon Willard,	Bellevue, 1879,	Hazardville.
Howard, Arthur Wayland,	Univ. N. Y., 1890,	Wethersfield.

Name.	Medical Graduation.	P. O. Address.
Howard, John,	Dartmouth, 1881,	Hartford.
Howe, Harmon George,	{ Univ. Vt., '73; } { P. & S., N. Y., '75, }	{ Hartford.
Howland, Charles Hubbard,	Yale, 1880,	New Haven.
Hoyt, Curtis Clark,	P. & S., N. Y., '87,	Bridgeport.
Hubbard, Charles Henry,	Yale, 1860,	Essex.
Hubbard, Robert,	Yale, 1851,	Bridgeport.
Hubbard, Stephen Grosvenor, M.A., '60,	{ Dartmouth, 1843,	New Haven.
Hudson, William Miller, B.A., '53,	Jefferson, 1855,	Hartford.
Hughes, Oliver John Davis,	L. I. Coll. Hosp., '75,	Meriden.
Hulbert, William Sharon,	Univ. N. Y., 1880,	Winsted.
Hungerford, Henry,	P. & S., N. Y., '80,	Stamford.
Huntington, Samuel Henry,	Yale, 1876,	Norwalk.
Hurlbut, Augustus Moën, B.A. '76,	P. & S., N. Y., '79,	Stamford.
Ingalls, Phineas Henry, A.B., '77; A.M., '82,	{ P. & S., N. Y., '80,	Hartford.
Irving, Samuel Wellington,	Yale, 1891,	New Britain.
Ives, Robert Shoemaker, B.A., '64; M.A.,	{ Yale, 1866,	New Haven.
Jarvis, George Cyprian,	Univ. N. Y., 1860,	Hartford.
Jennings, George Herman,	L. I. Coll. Hosp., '75,	Jewett City.
Johnson, Frederick Eugene,	Univ. N. Y., 1879,	Mansfield.
Johnson, Marcus Morton, Ph.B.,	Univ. N. Y., 1877,	Hartford.
Joslin, George Harvey,	Univ. N. Y., 1887,	Hamden.
Judson, Walter, B.A., '64; M.A., '67,	P. & S., N. Y., '70,	New Haven.
Judson, William Henry,	Jefferson, 1878,	Danielsonville.
Kane, Thomas Francis,	Bellevue, 1887,	Hartford.
Kean, Mrs. L. Darnstadt,	Wom. Med., Pa., '87,	Hartford.
Kendall, John Calvin, B.A., '70,	P. & S., N. Y., '75,	Norfolk.
Keniston, James Mortimer,	Harvard, 1871,	Middletown.
Kent, John Bryden,	Harvard, 1869,	Putnam.
Ketchum, Leander Young,	Univ. Vt., 1880,	Woodbury.
Kimball, Ernest Dwight,	P. & S., Balt., '86,	Scotland.
Kinney, Elijah Clark,	N. Y. Med. Coll., '58,	Norwich.
Knight, George Henry,	"Univ.," (?) 1880,	Lakeville.
Knight, William Ward,	Univ. N. Y., 1876,	Hartford.
Knight, William Wilshire,	Berkshire, 1868,	Sharon.
Lacey, William Frederick,	Yale, 1844,	Danbury.
Lambert, Benjamin Lott,	Univ. N. Y., 1883,	New Haven.
Lander, Robert, M.A.,	Yale, 1871,	Bridgeport.
LaPierre, Julian,	Bellevue, 1871,	Norwich.
LaRue, Omer,	Vict., Montreal, '71,	Putnam.
Lawlor, Timothy Chris. Ambrose,	Bellevue, 1892,	Rockville.
Leavenworth, Daniel Carroll,	Yale, 1865,	New Haven.
Leighton, Alton Winslow,	Yale, 1879,	New Haven.
Leonard, Elbridge Knowlton,	Conn. Med. Soc., '66,	Rockville.
Lewis, George Francis,	Yale, 1865,	Collinsville.
Lewis, George Frederick, B.A., '77,	Yale, 1884,	Stratford.
Lewis, John Benjamin,	Univ. N. Y., 1853,	Hartford.
Lewis, William Albert,	Harvard, 1851,	Moosup.
Lewis, William Jerauld, M.A., '83,	P. & S., N. Y., '78,	Hartford.
Lindsley, Charles Augustus, B.A., '49; M.A.,	{ Yale, 1852,	New Haven.

Name.	Medical Graduation.	P. O. Address.
Lindsley, Chas. Purdy, Ph.B., '75,	Yale, 1878,	New Haven.
Look, Frank Byron,	Bowdoin, 1884,	Middletown.
Loomis, Francis Newton, B.A., '81,	Yale, 1883,	Birmingham.
Lowe, Russell Walter,	Univ. N. Y., 1889,	Georgetown.
Luby, John Francis, Ph.B., '76,	P. & S., N. Y., '78,	New Haven.
Lynch, John Charles,	Univ. N. Y., 1886,	Bridgeport.
Lyon, Edwin Bradbury,	Berkshire, 1862,	New Britain.
Lyon, Irving Whitall,	{ Univ. Vt., '62;	{ Hartford.
Lyons, Andrew Wolff,	{ P. & S., N. Y., '63,	
	Columbus, 1876,	Bridgeport.
MacLaren, William Stevenson,	P. & S., N. Y., '89,	Litchfield.
Madden, Edward George,	Yale, 1885,	New Haven.
Maher, Stephen John,	Yale, 1887,	New Haven.
Mailhouse, Max, Ph.B., '76,	Yale, 1878,	New Haven.
Marcy, Robert Adrian,	Univ. N. Y., 1882,	New Preston.
Markham, George Everett,	Univ. N. Y., 1882,	Burnside.
Marsh, Arthur Washburn,	Univ. Vt., 1882,	Westville.
Martin, Thomas Francis,	Univ. N. Y., 1874,	Bridgeport.
Mason, Jarvis King,	{	{ Suffield.
B.A., '55; M.A., '59,		
Matthewson, Earl,	P. & S., N. Y., '79,	Montville.
Matthewson, Rufus Wellington,	P. & S., N. Y., '35,	Durham.
May, Austin Ela,	Univ. Vt., 1879,	Bethel.
May, Jacob,	Rush, Chicago, '76,	Bridgeport.
Mayer, Nathan,	Cincinnati, 1857,	Hartford.
McCabe, Edward Michael, B.A., '84,	Yale, 1887,	New Haven.
McDonald, Edward Walsh,	Univ. N. Y., 1871,	Waterbury.
McGaughey, James David,	Jefferson, 1870,	Wallingford.
McKnight, Everett James, B.A., '76,	P. & S., N. Y., '79,	East Hartford.
McNeil, Rollin,	Yale, 1862,	New Haven.
Meeks, Edwin Joseph,	Bellevue, 1890,	Stamford.
Meeks, Harold Albert,	Bellevue, 1890,	Meriden.
Miller, George Root,	P. & S., Balt., '86,	Hartford.
Moody, Mary Blair,	Buffalo, 1876,	New Haven.
Morgan, Wm. Dennison, A.B., '72,	P. & S., N. Y., '76,	Hartford.
Morrell, Frederick Augustus,	L. I. Coll. Hosp., '85,	Putnam.
Morrissey, John Joseph, B.S.,	Univ. N. Y., 1884,	Hartford.
Munger, Carl Eugene, Ph.B., '80,	P. & S., N. Y., '83,	Waterbury.
Munger, Elisha,	Yale, 1875,	New London.
Munger, Walter Seward,	Yale, 1855,	Watertown.
Murphy, Michael Daniel,	Bellevue, 1884,	Middletown.
Nelson, Abiel Ward,	Harvard, 1861,	New London.
Newton, Cyrus Brownlie,	Yale, 1856,	Stafford Sp'ngs.
Newton, Matthew Turner,	Yale, 1851,	Suffield.
Nichols, Edward Payson,	{	{ Killingworth.
A.B., '48; A.M., '51,		
Nickerson, Nehemiah,	N. Y. Med. Coll., '57,	Meriden.
Nicoll, John,	Yale, 1854,	New Haven.
Noble, Henry Smith, A.B., '59,	P. & S., N. Y., '71,	Middletown.
North, Alfred, A.B., '58,	P. & S., N. Y., '61,	Waterbury.
North, James Howard,	L. I. Coll. Hosp., '73,	Goshen.
Noyes, Selden Walkley,	Univ. Pa., 1868,	Haddam.
Ober, George Eugene,	Univ. Vt., 1890,	Bridgeport.
O'Connor, Matthew Chas., A.B., '69,	P. & S., N. Y., '73,	New Haven.
O'Flaherty, John,	Albany, 1864,	Hartford.

Name.	Medical Graduation.	P. O. Address.
O'Hara, Bernard Augustine,	Bellevue, 1882,	Waterbury.
Olmstead, James, B.A., '72,	Yale, 1874,	Middletown.
Osborn, George Wakeman, B.A., '84,	P. & S., N. Y., '87,	Bridgeport.
Osborne, Curtiss Hinman,	Yale, 1877,	Southport.
Osborne, Oliver Thomas,	Yale, 1884,	New Haven.
O'Sullivan, Thomas Jefferson,	Bellevue, 1876,	Birmingham.
Paddock, Lewis Sloat, M.A.,	N. Y. Med. Coll., '54,	Norwich.
Page, Charles Ithamar,	P. & S., N. Y., '90,	Bridgeport.
Park, Charles Edwin,	Yale, 1881,	New Haven.
Parker, Julian Newell,	Yale, 1867,	S. Manchester.
Parker, Theodore Raymond,	Univ. N. Y., 1880,	Willimantic.
Parmelee, George Luther, D.M.D.,	L. I. Coll. Hosp., '69,	Hartford.
Parsons, Edward Field, A.B., '48,	P. & S., N. Y., '58,	Thompsonville.
Peckham, Lucy Creemer,	Wom. Med., Pa., '85,	New Haven.
Peck, Anthony,	Univ. N. Y., 1875,	Norwich.
Perkins, Charles Harris,	P. & S., N. Y., '91,	Norwich.
Perkins, William Sheldon Clark,	P. & S., N. Y., '60,	Norwich.
Phillips, Alfred Noroton,	P. & S., N. Y., '83,	Stamford.
Phinney, Elisha,	Yale, 1835,	Yantic.
Pierce, Elbridge Worthington,	Univ. N. Y., 1885,	Meriden.
Pierce, George Howard, B.A., '82,	Yale, 1886,	Danbury.
Pierpont, Henry,	Yale, 1854,	New Haven.
Pierson, Samuel,	P. & S., N. Y., '81,	Stamford.
Pinney, Charles Hitchcock,	P. & S., N. Y., '53,	Derby.
Platt, William Logan,	P. & S., N. Y., '81,	Torrington.
Plumstead, Matthew Woodbury,	Jefferson, 1887,	East Haddam.
Plunkett, Henry Bernard,	Univ. N. Y., 1891,	Rocky Hill.
Pons, Louis Jacques,	Univ. Vt., 1885,	Roxbury.
Porter, George Loring,	Jefferson, 1862,	Bridgeport.
Porter, William, Jr.,	Chic. Med. Col., '81,	Hartford.
Potter, Frank Edward,	P. & S., N. Y., '89,	Portland.
Powers, Frederick,	P. & S., N. Y., '70,	Westport.
Poyer, John Baptist,	Dartmouth, 1886,	New Britain.
Pratt, Edward Loomis,	Univ. N. Y., 1884,	Winsted.
Pratt, Elias,	P. & S., N. Y., '87,	Torrington.
Purdy, Alexander Marshall,	Univ. Vt., 1884,	Mystic Bridge.
Rankin, Chas. Goodrich, A.M., '84,	Chic. Med. Col., '86,	Glastonbury.
Reilly, James Michael,	Yale, 1878,	New Haven.
Reynolds, Herbert Sumner,	Univ. N. Y., 1881,	Clinton.
Rice, Frederick Augustus,	Bellevue, 1876,	Bridgeport.
Richardson, Dwight Alphonzo,	Yale, 1881,	Shelton.
Ring, Henry Wilson, A.B., '79; M.A.,	Me. Med. Coll., '81,	New Haven.
Rising, Henry Martin,	Yale, 1868,	S. Glastonbury.
Risley, Stephen Goodale,	Univ. N. Y., 1846,	Rockville.
Robbins, James Watson,	Bellevue, 1880,	Naugatuck.
Roberts, Edw. Kilbourne, Ph.B., '78,	Yale, 1880,	New Haven.
Robinson, Myron Winslow,	Berkshire, 1860,	Colchester.
Robinson, Rienzi,	L. I. Col. Hosp., '69,	Danielsonville.
Rockwell, Thomas Francis,	Univ. N. Y., 1881,	Rockville.
Rodman, Charles Shepherd,	P. & S., N. Y., '68,	Waterbury.
Rogers, Charles Henry, B.A., '44,	Yale, 1847,	Central Village.
Rogers, Francis Joseph,	Univ. Pa., 1873,	Stamford.
Rogers, Frederick,	Univ. N. Y., 1863,	Willimantic.
Root, Edward King,	Univ. N. Y., 1879,	Hartford.
Root, Joseph Edward, B.S., '76,	P. & S., N. Y., '83,	Hartford.
Ruickoldt, Arthur,	Univ. Jena, 1865,	New Haven.

Name.	Medical Graduation.	P. O. Address.
Ruland, Fred Davis,	P. & S., N. Y., '89,	Westport.
Russell, Gurdon Wadsworth, B.A., '34; M.A.,	} Yale, 1837,	Hartford.
Russell, Thos. Hubbard, Ph.B., '72,	Yale, 1875,	New Haven.
Russell, William Spencer,	Yale, 1880,	Wallingford.
Russell, Willis Adams,	Univ. N. Y., 1881,	Essex.
Ryce, Benjamin Paul,	Bellevue, 1890,	Meriden.
Sanford, George Willis,	Berkshire, 1836,	Simsbury.
Sanford, Leonard Jacob, M.A., '58,	Jefferson, 1854,	New Haven.
Sawtelle, Frederic George,	L. I. Col. Hosp., '80,	Pomfret.
Schavoir, Frederic,	P. & S., Balt., '87,	Stamford.
Scott, Albert Lewis,	P. & S., N. Y., '85,	Danbury.
Sears, Cushman Allen,	Univ. N. Y., 1862,	Portland.
Seaver, Jay Webber, B.A., '80,	Yale, 1885,	New Haven.
Sedgwick, James Theodore,	Univ. N. Y., 1885,	Litchfield.
Sedgwick, William Russell,	Univ. N. Y., 1888,	East Hartford.
Segur, Gideon Cross,	P. & S., N. Y., '82,	Hartford.
Shelton, Gould Abijah, M.A., '91,	Yale, 1869,	Shelton.
Shepard, Durell,	Yale, 1864,	West Haven.
Shepherd, George Reubens,	Yale, 1866,	Hartford.
Sherman, A. Josephine,	Wom. M., N. Y., '90,	Middletown.
Sherman, Henry Arthur,	Jefferson, 1888,	Putnam.
Simmons, Willard Nelson,	Univ. Vt., 1889,	Tolland.
Simpson, Frederick Thomas, B.A.,	Me. Med. Coll., '84,	Hartford.
Skinner, Clarence Edward,	Yale, 1891,	New Haven.
Smith, Andrew Jackson,	P. & S., N. Y., '63,	Bridgeport.
Smith, Edward Montrose,	P. & S., N. Y., '82,	Newtown.
Smith, Edward Wier,	McGill, Mont., '82,	Meriden.
Smith, Frank Lewis,	Univ. N. Y., 1875,	Bridgeport.
Smith, Frederick Sumner, B.A., '79,	Yale, 1882,	Chester.
Smith, Herbert Eugene, Ph.B., '79,	Univ. Pa., 1882,	New Haven.
Smith, James Jay,	P. & S., Balt., '88,	Willimantic.
Smith, Junius Foster,	L. I. Col. Hosp., '90,	Brookfield.
Smith, Marvin,	Univ. N. Y., 1883,	New Haven.
Smith, Newton Phineas,	P. & S., N. Y., '82,	Norwich.
Smith, Oliver Cotton,	L. I. Col. Hosp., '83,	Hartford.
Snow, Emerson Emery,	Jefferson, 1874,	Danbury.
Spring, Frederick,	Univ. N. Y., 1885,	Naugatuck.
Stanley, Charles Everett,	Univ. Pa., 1876,	Middletown.
Stanton, George Dallas,	Bellevue, 1865,	Stonington.
Stanton, John Gilman,	Würzburg, 1873,	New London.
Steadman, Willard George,	Bellevue, 1874,	Southington.
Stearns, Henry Putnam, B.A. '53; M.A.,	} Yale, 1855,	Hartford.
Stetson, James Ebenezer,	Yale, 1881,	New Haven.
Stevens, John Gale,	Yale, 1884,	Monroe.
St. John, Sam'l Benedict, B.A., '66,	P. & S., N. Y., '70,	Hartford.
Stone, Burton Dwight,	Univ. N. Y., 1882,	Meriden.
Stone, Jay Stephen,	P. & S., N. Y., '65,	New Britain.
Storrs, Melancthon, B.A., '52,	Yale, 1853,	Hartford.
Stratton, Edward Augustus,	Univ. N. Y., 1883,	Danbury.
Strickland, Rial,	Albany, 1839,	Thompsonville.
Sullivan, Francis Daniel, A.B., '91,	Niagara Univ., '91,	Hartford.
Sumner, Charles Fletcher,	Univ. W. N. Y., '40,	Bolton.
Swain, Henry Lawrence,	Yale, 1884,	New Haven.
Swansey, Erastus Perry,	P. & S., N. Y., '69,	New Britain.

Name.	Medical Graduation.	P. O. Address.
Swett, William Plummer,	Univ. Vt., 1876,	Terryville.
Swift, Elisha Dean,	Univ. N. Y., 1849,	Hamden.
Taft, Charles Ezra,	Harvard, 1886,	Hartford.
Tanner, Alfred Herbert,	Bellevue, 1874,	Brooklyn.
Tenney, Arthur John, Ph.B., '77,	Yale, 1883,	Branford.
Terry, James Luther, A.B., '68,	P. & S., N. Y., '71,	Lyme.
Thompson, George,	Me. Med. Coll., '89,	Taftville.
Thompson, William Henry,	Yale, 1862,	New Haven.
Tingley, Witter Kinney,	Bellevue, 1886,	Norwich.
Tinker, William Richard,	Univ. N. Y., 1880,	S. Manchester.
Todd, William Sheridan,	{ P. & S., N. Y., '69,	Ridgefield.
A.B., '64; A.M., '67,		
Topping, Jacob Reed,	Univ. N. Y., 1882,	Bridgeport.
Townsend, Jos. Hendley, B.A., '85,	Yale, 1887,	New Haven.
Tracy, Andrew William,	McGill, Mont., '73,	Meriden.
Treadway, William A. Buckingham,	Univ. Mich., 1883,	Stamford.
Treadwell, Oliver Ferd., B.A., '62,	Yale, 1865,	Hamden.
Turnbull, Thomas,	Univ. Pa., 1887,	Hartford.
Turner, Sylvester Wooster, B.A., '42,	Yale, 1846,	Chester.
Tuttle, Charles Alling, Ph.B., '88,	Yale, 1891,	New Haven.
Tuttle, Frank Benjamin,	Yale, 1863,	Naugatuck.
Van Vleet, Peter P.,	Bellevue, 1869,	Stamford.
Varno, Arthur Joel,	P. & S., Balt., '92,	Broad Brook.
Varno, Henry G.,	P. & S., Balt., '82,	Thompsonville.
Wainwright, Wm. Aug. Muhlen-	{ P. & S., N. Y., '67,	Hartford.
berg, A.B., '63,		
Walsh, Frederick William,	P. & S. Baltimore, '84,	Rockville.
Warner, Abner Spicer, A.B., '42,	Dartmouth, 1848,	Wethersfield.
Warner, Horace Seely, A.B., '81,	P. & S., N. Y., '85,	Collinsville.
Warren, Edward Winslow, A.B., '77,	Harvard, 1883,	Ansonia.
Watson, Wilbur Seymour,	L. I. Coll. Hosp., '87,	Danbury.
Way, Hervey Ellsworth,	Univ. N. Y., 1849,	Bristol.
Webb, Daniel Meigs, B.A., '46,	Yale, 1849,	Madison.
Weed, Willis Edward,	P. & S., N. Y., '84,	Ridgefield.
Welch, Edward Hubbard,	Yale, 1876,	West Winsted.
Welch, George Kellogg,	P. & S., N. Y., '78,	Hartford.
Welch, William Collins,	Yale, 1877,	New Haven.
Welch, William Wickham,	Yale, 1839,	Norfolk.
Weldon, John,	Univ. N. Y., 1883,	Willimantic.
West, Redfield Benjamin,	Univ. N. Y., 1879,	New Haven.
Wheeler, Franklin, B.A., 1847,	{ P. & S., N. Y., '52,	Farmington.
M.A., 1850,		
Wheeler, Frank Henry, B.A., '80,	Yale, 1882,	New Haven.
White, Benjamin Walker,	L. I. Coll. Hosp., '86,	Bridgeport.
White, Frederick Olin,	Yale, 1873,	New Haven.
White, Moses Clark, B.A., '45, M.A.,	Yale, 1854,	New Haven.
White, Robert Creighton,	Univ. Vt., 1889,	Willimantic.
Whiton, Francis Henry,	Dartmouth, 1872,	Manchester.
Whittemore, Frank Hamilton,	Bellevue, 1874,	New Haven.
Wiggin, Frederick Holme,	Bellevue, 1877,	Litchfield.
Wildman, Henry Smith,	L. I. Coll. Hosp., '88,	Waterbury.
Wile, William Conrad, M.A.,	Univ., N. Y., 1870,	Danbury.
Williams, Amos Loomis,	Jefferson, 1841,	Brookfield.
Wilson, Frederick Morse, A.B., '71,	Harvard, 1875,	Bridgeport.
Wilson, John Joseph,	P. & S. Balto., '86,	Bristol.

Name.	Medical Graduation.	P. O. Address.
Wilson, Samuel Allen,	Yale, 1852,	Windsor.
Wilson, William Virgil,	Yale, 1867,	West Haven.
Winchell, Alverd Ezra, A.B., '57,	P. & S., N. Y., '65,	New Haven.
Witter, William,	Yale, 1865,	Norwich.
Wolff, Arthur Jacob,	{ Tex. Med. Col., '76; }	{ Hartford.
Wooster, Charles Morris,	{ Bellevue, '83,	{ Tariffville.
Wordin, Nathaniel Eugene, B.A.,	Univ. N. Y., 1879,	
1870, M.A., '74,	{ Jefferson, 1872,	Bridgeport.
Worthington, Albert Brownell,	Yale, 1847,	Middle Haddam.
Wright, Frank Walden,	Bellevue, 1880,	New Haven.
Wright, John Winthrop,	Univ. N. Y., 1880,	Bridgeport.
Wright, Theodore Goodelle,	Univ. N. Y., 1865,	Plainville.
Young, Francis James,	Yale, 1866,	Bridgeport.
Young, Mary Rising,	Univ. Mich., 1876,	Bridgeport.
Zink, Walter,	Wurtzburg,	Branford.

Members noticing any errors or omissions in any part of their record will please inform the Secretary for correction in future lists.

CENTENNIAL INDEX

OF THE

PROCEEDINGS

OF THE



Connecticut Medical Society

1792-1891

A Complete Catalogue of the Members of the Society

NOTE.—For convenience of reference, and to avoid repetition, all names and subjects are indexed by year and page of Proceedings. During the period 1861 to 1875, inclusive, the Proceedings for each year is divided into two parts and paged accordingly. To overcome this element of confusion, reference to the *second part* of each year's Proceedings, during those years, is indicated by the character *ii.* preceding the page.

The early numbers of the Proceedings being exceedingly scarce, and the Reprint of those numbers being easily accessible, it was decided to use the latter in preparing this index. Reference to the Reprint is indicated by the character *Re.*

The principal abbreviations made use of are,

m. — Mentioned.

ii. — Second part.

Re. — Reprint of the Proceedings from 1792–1829, inclusive.

* — Honorary Member.

† — Ordinary Member.

[H.] — Member of the Hartford County Medical Society.

[N. H.] — “ “ New Haven “ “ “

[N. L.] — “ “ New London “ “ “

[F.] — “ “ Fairfield “ “ “

[W.] — “ “ Windham “ “ “

[L.] — “ “ Litchfield “ “ “

[M.] — “ “ Middlesex “ “ “

[T.] — “ “ Tolland “ “ “

JOHN B. LEWIS, M.D.

HARTFORD, CONN., March 10, 1892.

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voted to submit a copy of said Articles to the clerk of each county, *Re.* 143; Articles amended and adopted, and voted that a copy certified by the Sec. be transmitted by him to the corporation of, *Re.* 148; Com. appointed to confer with the corporation of, respecting the articles of union, *Re.* 161; Com. appointed to confer with the corporation of, for the purpose of making a nomination for professors of the Medical Institution, *Re.* 161; Voted, that the Articles be printed, *Re.* 166; (Full text of articles of union contained in "An Act" etc., passed by the General Assembly, October, 1810, and published in the Proceedings of 1811, but does not appear in *Re.*); Com. appointed to confer with com. of the corporation on the subject of the Medical Institution, *Re.* 172, The prof. of the Med. Institution requested to deliver lectures before the convention, *Re.* 208; Memorial to the convention (not in the *Re.*) '18, 4; Act to establish Medical Institution of (not in *Re.*) '25, 7; Com. appointed to obtain legislative authority to appoint additional prof. in the Med. Inst. of, *Re.* 287; An act in relation to the Med. Inst. of '34, 14; '54, 34; '56, 34; Report of com. of exam., '46, 6; Donations to, report of com. upon, '64, ii. 31; Report of com. on endowment of med. college, '65, ii. 39; charter of Med. Inst. of, '66, ii. 106; Proposed establishment of a school of dentistry in, '67, ii. 110, 113; Resolutions commending Med. Inst. of '67, ii. 118; Faculty of Med. Inst. upon plan for revising system of instruction, '68, ii. 26; Com. appointed to raise funds of endowment, '73, ii. 32; Med. Inst. of, '74, ii. 73; Charter of the Med. Inst. of, '75, ii. 115; '79, 183; '83, 202; Discussion upon status of Med. Inst. of, '83, 11; Action taken with a view of dissolving connection between the Soc. and the med. dept. of, '84, 10, 11, 12; Memorandum of legislative acts in relation to the Soc. and the Med. Inst. of, '84, 189; Report of com. upon changes required in charter of the Soc. on account of the dissolution of the union with, '85, 13.

Yellow fever, '79, 132.

NAMES.

* Honorary member. † Ordinary member.

() When parts of names are in parentheses it indicates that such parts are probably correct, but have not been verified from records.

In compiling this index of names many errors were found, and an attempt to rectify them led to an effort to obtain, as nearly as possible, the complete and correct name of each member of the Society. To accomplish this has required a careful search in town, county, and probate records, and an examination of the alumni catalogues of all our leading medical colleges. Hundreds of letters have been written and many miles of travel required to attain the desired result. Every member's name that appears in the Proceedings during the first century of the Society's existence may be found in this index. A list of those members whose names are not in the Proceedings may be found immediately following, at page 1063. Some brief items of interest pertaining to individuals, or which have not heretofore been published, are inserted with these names. While there doubtless are errors in this list, yet it is believed to be nearly correct, and when a name differs in spelling or otherwise from that in the Proceedings, it will generally be safe to accept, as the right one, the name given herein.

† **ABBE**, ALANSON [L.], m. *Re.* 290; '76, 142; M.D., Yale, 1821; died 1864.

Abbe, Burr Reeve, m. '54, 23.

Abbott, Bela, of Westfield, Mass.; hon. deg. of M.D., '43, 5.

† Abbott, Francis Spaulding [N. L.], m. '66, ii. 91; '67, ii. 109; '68, ii. 1, 16; M.D., Berkshire, 1865.

† Abbott, George Edwards [H.], m. '74, ii. 54; removed to New York City.

Abbott, Jehiel, m. *Re.* 214; '75, ii. 152; hon. M.D., 1843; died, 1872.

- † Abernethy, Andrew [L.], m. '35, 10; notice of death, '52, 17.
- † Abernethy, Augustus Huggins [F.], m. '65, ii. 57; '67, ii. 109, 113, 117; '70, ii. 77; '73, ii. 26; Biog. sketch of, '85, 216.
- † Abernethy, George Haskell [M.], m. '32, 10; '35, 3; '40, 3; Biog. sketch of, '82, 149.
- † Abernethy, John Jay [H.], m. *Re.* 289; '30, 9; '31, 3; '32, 7; '82, 149; M.D., Coll. P. & S., N. Y., 1828; died, 1829.
- † Abernethy, Roswell [L.], m. *Re.* 17, 223, 239, 253, 285, 290; '30, 11; '37, 11; '82, 149; hon. deg. of M.D., *Re.* 255.
- † Abernethy, William [L.], m. *Re.* 14; '35, 16.
- † Abrams, Alva Elnathan [H.], m. '83, 35; '84, 22; '85, 17; '86, 8, 19; '87, 8, 14, 19; '88, 19; '89, 31; Perityphlitic abscess, '84, 141; Reports, '86, 190, 191; Sulphonal, '89, 230.
- † Adam, George [L.], m. '39, 14; M.D. Coll. P. & S., N. Y., 1837.
- † Adams, Alpheus Ely [F.], m. '81, 20; '84, 15; Sketch of Dr. Bennett, '87, 187; of Dr. Baldwin, '84, 167; Diseases of the ear, '87, 30; Smoking, '87, 67.
- Adams, Arthur Herman, m. '73, ii. 29; '75, ii. 98.
- † Adams, David [L.], m. '73, 197; Corporator, Act of 1787.
- Adams, Elijah, regimental surgeon in Revolutionary war, m. '51, 49.
- *Adams, John Glover, hon. mem. m. '62, ii. 53; '65, ii. 36; died June 19, 1884.
- † Adams, Lemuel S. [L.], m. '32, 10; '37, 11.
- † Adams, Nathan [T. and W.], m. '35, 11; '43, 3, 11; M.D., Yale, 1834.
- Adams, Richard, m. *Re.* 229.
- † Aimes, John Martin [N. H.], m. '58, 53; '66, ii. 91; '68, ii. 1; '69, ii. 37, 39; Biog. sketch of, '82, 166.
- Ainey, Albert Joseph, m. '67, ii. 133; M.D., Yale, 1867.
- † Alain, Alexandre Samuel [N. H.], m. '90, 32.
- *Alden, Ebenezer, hon. mem. '60, 9; died 1881.
- † Alden, Howard [H.], m. *Re.* 12, 95, 117, 123, 129, 159.
- Aldrich, Henry, of R. I., hon. deg. of M.D., '54, 10; '75, ii. 153.
- † Alexander, Elijah [N. L.], m. *Re.* 185; first person graduated M.D. by Yale, 1814; Died 1817.
- † Alexander, George B. [N. L.], m. '88, 27, 225.

- Allan, Henry William, m. '81, 239.
- † Allen, Aldis Samuel [F.], m. '31, 7; '32, 9; M.D., Yale, 1830; died 1833.
- † Allen, Almon Squires [F.], m. '79, 27; '80, 9, 189; died March 3, 1889.
- † Allen, Charles Noah [W.], m. '84, 4, 19; '87, 16; '88, 9; '89, 21; '90, 7, 12; '91, 8; Report, '91, 285.
- Allen, Ebenezer Bingham, m. '37, 5; M.D., Yale, 1839; died 1873.
- † Allen, Francis Tracy [H.], m. '55, 17; Sanitary report, '56, 33; m. '83, 34; Biog. sketch of, '83, 169.
- † Allen, Howard Oliver [H.], m. '79, 26; '85, 8; '86, 8, 13.
- † Allen, Hull [N. H.], m. *Re.* 289; '30, 9; '91, 330.
- Alling, Lewis Henry, m. '58, 8; '60, 71.
- † Alling, Willis George [N. H.], m. '70, ii. 95; '74, ii. 53; '81, 8, 12; Erythema, '75, 370.
- † Almy, Leonard Ballou [N. L.], m. '78, 22; '79, 10; '84, 4, 9, 12, 15; '85, 17; '86, 8; '87, 8, 19, 22; '88, 8, 17; '89, 7, 8, 19, 27, 31; '90, 7, 18; Reports, '82, 63, 65; '83, 74, 75; '89, 82; '90, 270; '91, 101; Sketch of Dr. Haile, '80, 168.
- † Alsop, Joseph Wright [M.], m. '71, ii. 126; '77, 9, 14; '88, 7; '91, 7.
- † Alton, Charles De Lancey [H.], m. '84, 19; '89, 21, 31; '90, 26; '91, 8, 17, 21.
- † Ames, Charles Erasmus [N. L.], m. '45, 13; M.D., Univ. N. Y., 1843; moved to Cleveland, Ohio; died April 28, 1868.
- Ames, Edward, m. '74, ii. 67.
- † Ames, Horace [F.], m. *Re.* 245; M.D., Coll. P. & S., N. Y., 1822.
- Amory, Robert, m. '89, 18.
- Anay, David Carlisle, m. '60, 71.
- † Anderson, William Dexter [N. H.], m. '65, ii. 57; expelled, '69, ii. 39.
- † Andrews, Aaron [N. H.], m. *Re.* 13; '35, 16, North Haven; died 1814.
- † Andrews, Arza [N. H.], m. *Re.* 289; '35, 3; M.D., Yale, 1827; died 1852.

- † Andrews, John [N. H.], hon. deg. of M.D., *Re.* 268; Wallingford.
- † Andrews, John Summerfield [F.], m. '49, 15; M.D., Univ. N. Y., 1849; moved to East New York; died in Brooklyn, N. Y., 1889.
- † Andrews, Josiah Bishop [H.], m. '30, 9; '31, 6; '36, 6; M.D., Coll. P. & S., N. Y., 1816; moved to New York; died April 26, 1853.
- Andrews, Judson Boardman, m. '63, ii. 106.
- † Andrews, William Henry [F.], of Brookfield, m. '84, 19, 172; moved to Springfield, Mass.
- † Andrews, William Henry [N. H.], of Milford, m. '74, ii. 63; died Jan. 24, 1889.
- † Andros, James S. [W.], m. '32, 9.
- † Andrus, Chauncey [N. H. and M.], m. *Re.* 281; Hamden, Durham, and Haddam.
- † Andrus, John [H.], m. *Re.* 12; '35, 15.
- † Andrus, Luman Jones [H.], m. '40, 8; '47, 9; '50, 11.
- Angles, Leopold Albert, m. '66, ii. 101, 102.
- † Arnold, Daniel [T.], m. *Re.* 15; '35, 16; '70, 440.
- Arnold, Edmund Samuel Foster, of Yonkers, N. Y., m. '68, ii. 3.
- † Arnold, Epaphras Josiah [M.], m. '34, 9; M.D., Yale, 1834; died 1857.
- † Atherton, Henry Palmer [H.], m. '73, ii. 30, 90; M.D., Harvard, 1871.
- † Atwater, Caleb Huntington [N. H.], m. '81, 19.
- Atwater, Hiram Hayden, of Vt., m. '75, ii. 78, 84.
- † Atwater, William [N. H.], m. '47, 10; M.D., Coll. P. & S., N. Y., 1845.
- Atwood, Garwood Harvey, m. '44, 21.
- † Augur, George Jacob [N. H.], m. '78, 227; '79, 179, 180; '80, 193; '81, 19.
- † Austin, Aaron [N. H.], m. '35, 9; '36, 9.
- † Austin, Caleb [L. and N. H.], m. *Re.* 13, 43, 61; moved to Milford, 1799.
- † Austin, Caleb Hopkins [M.], m. *Re.* 267; '33, 7, 11; Biog. sketch of, '66, 273.
- † Averill, James Judson [N. H.], m. '66, ii. 91, 101, 102; '87, 9, 26; Biog. sketch of, '88, 218.
- † Averill, Jonathan [W.], m. *Re.* 13; '35, 16.

- Avery, Amos George, m. '44, 11.
- † Avery, Christopher S. [W. and N. L.], m. *Re.* 290; '44, 15.
- † Avery, Daniel [T.], m. *Re.* 15; '35, 16.
- † Avery, George Whitefield [H.], m. '63, ii. 120; '73, ii. 30; '82, 8, 14, 34; '84, 22; '85, 17; '87, 112; '89, 21, 31; Reports, '83, 32; '84, 144; Essay, '89, 186.
- † Axtelle, John Franklin [H.], m. '80, 23, 187.
- † Axtelle, Thomas Lincoln [N. H.], m. '85, 20; '88, 29.
- † Ayres, Chauncey [F.], '34, 8; '38, 3; '45, 5; M.D., Yale, 1831.
- † Ayres, William Orville [H. and N. H.], m. '54, 23; '75, ii. 83; '80, 24; '81, 16; Biog. sketch of, '87, 174.
- † BABCOCK, Edward Dennison [H.], m. '42, 8; '53, 3; died Aug. 3, 1886.
- † Babcock, William A. [N. L.], m. '45, 14; M.D., Univ. N. Y., 1845.
- † Backus, Thomas [W.], m. *Re.* 13; '35, 16.
- † Bacon, Francis [N. H.], m. '52, 21; '63, ii. 120; '65, ii. 35, 50; '66, ii. 80; '69, ii. 37, 40; '70, ii. 84; '71, ii. 114, 116; '72, ii. 8; '73, ii. 29; '74, ii. 52; '75, ii. 78, 79, 81; '76, 10; '78, 16; '81, 16; '88, 7; '89, 20, 24; '90, 20, 41, 44; '91, 22, 27; votes of thanks to, '71, ii. 116; '76, 13; nom. prof. Yale Med. Coll., '65, ii. 60; Vice-pres't, '86, 18; Pres't, '87, 20; Address to Fellows, '88, 9; Address to Convention, '88, 30; Typhlitis, '90, 234.
- † Bacon, James G. [N. H.], m. '66, ii. 91; M.D., Albany, 1860.
- † Bacon, Jonathan Knight [L.], m. '64, ii. 26; '74, ii. 50; '75, ii. 78.
- † Bacon, Leonard [W. and H.], m. *Re.* 13, 43, 53, 57, 61, 67, 71, 83, 84, 87, 95, 97, 101, 102, 107, 111, 117, 119, 123, 129, 133. Windham Co. 1793, removed to Hartford, 1803.
- Bacon, Leonard Woolsey, m. '56, 23.
- † Bacon, William Turner [H.], m. '77, 17; '82, 8, 23; '83, 4; '84, 22; '88, 18; Reports, '77, 70; '78, 62, 64; '82, 44; Glioma retinae, '84, 137; Adenoid veg., '91, 253.
- † Badger, Lewis [H.], m. *Re.* 289; '33, 8; '34, 7.
- † Badger, William [F.], m. '66, ii. 92.
- † Bailey, Alfred [N. L.], m. *Re.* 190; Stonington, died 1819.
- † Bailey, George Cornelius [H.], m. '87, 26, 194.
- † Bailey, John Elmore [M.], m. '86, 22, 231.

- † Bailey, Norman Brigham [N. H.], m. '73, ii. 63. See Norman B. *Bayley*.
- Baird, Theobald, m. '67, ii. 133.
- † Baker, Amos [F.], m. *Re.* 15; '35, 16.
- Baker, Elias Campbell, m. '53, 23; M.D. Yale, 1853; died, 1883.
- † Baker, Frederick Birdsey [F.], m. '90, 32, 308.
- † Baker, John Francis [N. H.], m. '91, 31, 329.
- † Baker, Joseph [W.]. Corporator of Conn. Med. Soc., *Re.* vi. m. *Re.* 27, 28, 30, 33, 34, 43, 45.
- † Baker, Peyton Randolph [N. L.], m. '54, 16; murdered at Waldoboro, Me., May 17, 1873.
- † Baker, Rufus [M.], m. '44, 17; '46, 3; '50, 3; '54, 3; '61, ii. 23, 29; '65, ii. 36, 37, 40; '70, ii. 78, 83, 84; '73, ii. 28; '75, ii. 78, 79, 82; '76, 10; '77, 14; '80, 8, 13; '82, 23, 34; '83, 5, 11, 27; '84, 15; '85, 7; '86, 9, 13, 19; '87, 20; '91, 9; Issue, '59, 41; Report, '81, 32; Sketch of Dr. Hough, '87, 185.
- † Baker, Scott Robert [N. H.], m. '78, 227; '79, 180; '80, 24; expelled, '87, 22.
- † Balcom, Horace E. [W.], m. '68, ii. 17; dismissed, '74, ii. 53.
- † Balcom, Irving Stanley [F.], m. '89, 27, 285.
- † Baldwin, Charles Tomlinson [N. H.], m. '84, 18, 171.
- † Baldwin, Edward Robinson [M.], 1891; Cromwell; M.D., Yale, 1890.
- † Baldwin, Elijah [W.], m. *Re.* 201, 223, 239, 253, 275; '30, 3; '36, 3; '38, 3; '79, 9; hon. deg. of M.D., *Re.* 268.
- † Baldwin, Elijah Jr. [W.], m. '45, 15; '48, 3; '54, 3; '73, ii. 26, 32; '77, 9, 14; '80, 21; '81, 15; Physiology of sleep, '73, 207; Biog. sketch of, '89, 253.
- † Baldwin, Gabriel [F.], m. *Re.* 15; '35, 16.
- † Baldwin, Harvey [L.], m. '41, 12; '43, 3.
- Baldwin, Horatio Marsh, m. '36, 5; M.D., Yale, 1838; died, 1842.
- † Baldwin, Isaac [N. H.], m. *Re.* 13; '35, 15; moved to Mass. 1793.
- † Baldwin, James [F.], m. *Re.* 290; '33, 7; '34, 3; '55, 3; '72, ii. 2, 4; '75, ii. 78; Biog. sketch of, '84, 167.
- † Baldwin, Nathan Clark [N. H.], m. '37, 9; '54, 16; M.D., Yale, 1837; Died, 1885.
- Ball, Artemas, m. '36, 5.

- † Ballard, Samuel [W.], m. '30, 10.
- † Balls, David [N. L.], m. *Re.* 16.
- † Bancroft, Erastus [L.], m. '31, 8; hon. deg. M.D. '55, 10.
- † Bancroft, Oliver [F.], m. *Re.* 15; '35, 16.
- † Banks, George [F.], m. '85, 21, 224.
- † Banks, Nehemiah [N. H.], m. '42, 5; '44, 21; '48, 12; died 1890.
- † Banks, Samuel [F.], m. *Re.* 290.
- † Banks, Samuel [H.], m. '43, 9.
- † Banks, Samuel I. [N. H.], m. *Re.* 17.
- † Banks, Talcott [F.], m. '31, 7; M.D., Yale, 1822; died 1833.
- † Banning, Josiah (Coe) [H.], m. '35, 8; '48, 3; died Nov. 8, 1848, æt. 52.
- † Barber, Alvin Elizur [L. and F.], m. '55, 20; '87, 8, 19; '90, 7, 12, 39; '91, 8; Sketch of Dr. Hickok, '85, 217; of Dr. Lyon, '89, 266.
- Barber, Edward Thomas, m. '72, ii. 19.
- † Barber, Walter Lewis [N. H.], m. '77, 17; '80, 24; '86, 8; '88, 29; '91, 8, 15; Essay, '88, 180; Report, '91, 111.
- † Barber, Willett Peckham [N. L.], m. '76, 12; '86, 8; '89, 8, 14; Report, '79, 87; died 1892.
- † Barbour, James Edgar [F.], m. '66, ii. 92; '77, 9; '78, 11, 12, 13, 16, 29; Reports, '78, 132, 146; Biog. sketch of, '80, 170.
- Bard, John, hon. deg. of M.D., *Re.* 30.
- Bard, Samuel, hon. deg. of M.D., *Re.* 30.
- † Baribault, Arthur Octave [N. H.], m. '91, 31; *Barribault* in the Proceedings.
- *† Barker, Benjamin Fordyce [N. L.], '42, 9; '47, 7; '48, 3; Vote of thanks to, '48, 5; hon. mem., '60, 9; died May 30, 1891.
- † Barker, George Frederick [N. H.], m. '66, ii. 91.
- † Barker, James Conquest [N. H.], m. '79, 179; '80, 24, 188, 193.
- † Barker, John [N. L. and W. and N. H.], memorialist of 1763 to General Assembly of Colony of Conn., *Re.* iv., m. *Re.* v. 13, 87, 95, 101, 102, 111, 129, 133, 143, 165, 299; '51, 52; '59, 31; '76, 111; Sec'y, *Re.* 117, 123, 137, 147, 153; Vice-Pres't, *Re.* 171; hon. deg. M.D., *Re.* 173; Report of case, *Re.* 333; Biog. sketch of, '62, 174.
- † Barker, John William [N. H.], m. '58, 8; '60, 71; '65, ii. 50.

- † Barker, Samuel [W.], m. *Re.* 13; '35, 16.
 Barker, William, m. '82, 149.
- † Barlow, Gardiner [N. H.], m. '44, 14; death of, '54, 19.
 Barnard, Thomas, sketch of, '70, 426.
- † Barnes, Irving Ferguson [H.], m. '91, 31, 327.
- † Barnes, Josiah [L.], m. *Re.* 290; M.D., Univ. Pa., 1829; died 1871.
- † Barnes, Julius Steele [H.], m. *Re.* 253; '30, 3; '35, 3; '44, 5; Biog. sketch of, '71, 492.
- † Barnes, Lewis [N. H.], m. '54, 16; '65, ii. 51, 54; '84, 4, 22; '86, 7; '87, 20; Essay, '84, 123; Sketch of Dr. Jewett, '87, 169, of Dr. Johnson, '88, 215 of Dr. Platt, '90, 277.
- † Barnett, John Frederick [N. H.], m. '70, ii. 95; '75, ii. 83; '76, 6; Sketch of Dr. Aimes, '82, 166.
- † Barnum, David S. [F.], m. '40, 9; died 1849.
- † Barnum, Samuel T. [F.], m. '34, 8; '36, 9.
- † Barolet, Francois Xavier [W.], m. '76, 12; '85, 8.
- † Barratt, Joseph [M.], m. '32, 10; '36, 3; hon. deg. of M.D., '34, 6.
- † Barrows, Ashbel Ward [H.], m. '38, 5; '40, 6; '41, 10; '45, 5; '60, 5, 8; '64, ii. 1, 4, 6, 7, 9; '70, ii. 77, 80, 81, 86; '71, ii. 109, 114; '74, ii. 49, 52, 54; '79, 21; '91, 46; Sanitary reports, '58, 65; '59, 55; Albuminuria, '68, 154; Malarial fever, '77, 22; Vice-Pres't, '75, ii. 80; Pres't, '76, 8; Sketch of Dr. Welch, '54, 55, of Dr. Richardson, '79, 171, of Dr. Wilcox, '82, 155.
- † Barrows, Benjamin Safford [H.] m. '88, 27, 223.
 Barrows, George T., m. '53, 9; M.D., Univ. N. Y., 1855.
- † Barrows, Frederic Eri [L.], m. '80, 24; removed to Clinton, N. Y.
- † Barstow, Casper [W. and H.], m. '79, 27; '87, 195; Sketch of Dr. Huntington, '83, 180; Biog. sketch of, '90, 279.
- † Barstow, Gideon Forrester [W.], m. '60, 6; '63, ii. 82; '64, ii. 20; Biog. sketch of, '65, 154.
- Barry, Denis William, m. '85, 18.
- † Barry, William James [H.], m. *Re.* 275, 288; '30, 3, 7; '32, 5; '39, 3; '46, 12; M.D., Coll. P. and S., N. Y., 1826.
- Bartholow, Roberts, Prize essays, '68, 29; '68, 93.
- Bartlett, Edward Henry, m. '55, 25.

- Bartlett, Moses, m. '77, 139.
- † Bartlett, Shubael Fitch [N. L.], m. ('41, 11; *T. Bartlett* in the Proceedings), '42, 9; went to California in 1849; died there in 1850.
- † Bartlett, Stephen Chalker [N. H.], m. '66, ii. 101; honorably dismissed, '70, ii. 79; m. '74, ii. 54; '76, 6, 7; Skin grafting, '74, 258; Biog. sketch of, '79, 164.
- † Bartlett, Walter Russell [N. H.], m. '71, ii. 124, 127; Reports, '75, 352; '76, 19, 63; '77, 82; '78, 15, 94, 103; '79, 77; '80, 38; '84, 4, 11; Dissertation, '79, 37; resigned membership, '87, 21.
- Bassett, Benjamin Franklin, m. '51, 24.
- † Battell, Joseph [L.], m. *Re.* 229; hon. M.D., Yale, 1823.
- Baumann, Herman, m. '73, ii. 44.
- † Bayley, Norman Brigham [N. H.], m. '72, ii. 19; '74, ii. 54; Diphtheria, '75, 364.
- † Beach, Bildad [N. H.], m. *Re.* 34, 290.
- † Beach, Charles Coffing [H.], m. '86, 21; '89, 20; '90, 8, 25; Reports, '90, 269; Rationalism, '90, 195.
- † Beach, Elijah F. [H.], m. *Re.* 111.
- † Beach, Eliphalet [H.], m. *Re.* 12; '35, 15.
- † Beach, Elnathan [N. H.], Corporator of Conn. Med. Soc. *Re.* vi.; m. *Re.* 3, 4, 9, 13, 21, 27, 33, 34; '35, 15.
- Beach, Ferdinand, m. '64, ii. 26.
- Beach, George Washington, m. '64, ii. 26.
- † Beach, Horace K. [L.], m. '35, 10; '42, 10.
- † Beach, I(saac) Bailey [H.], m. '51, 15; '55, 17.
- † Beach, James Eaton [F. and N. H.], m. *Re.* 15, 21, 33, 34, 39, 45, 53, 57, 61, 71, 72, 87, 95, 290.
- † Beach, Samuel [F.], m. '30, 10; '34, 8; '36, 3; '40, 3; '43, 3; '45, 5; '46, 3; '48, 3; '49, 3; '50, 3; '51, 3; '52, 3, 9; '53, 59; Dissertation, '53, 61; died 1852.
- Beach, Warren Parker, m. '49, 7; '51, 23.
- † Beach, Willis Jerome [L.], m. '71, ii. 109; '75, ii. 78, 82; '79, 10, 11; '81, 9, 12; '82, 22; '83, 4; '84, 3, 16; '87, 9; Report, '79, 119; Essay, '82, 97.
- Beadle, Edward Langdon, of N. Y.; m. '75, ii. 79, 84.
- † Beales, Diodorus S. [H.], m. '57, 17; M.D., Albany, 1846.
- † Beard, Daniel [F.], m. *Re.* 15.
- † Beard, William [F.], m. *Re.* 15, 117, 123, 137, 155.

- † Beardslee, Henry Curtiss [F. and N. L.] m. '31, 7; '39, 3; M.D., Yale, 1829; died 1884.
- † Beardslee, Peter [L.], m. '49, 3; death mentioned, '50, 15.
- † Beardsley, Ambrose [F. and N. H.], m. '34, 8; '35, 3; '44, 5; '51, 3; '83, 5, 11, 19, 43; '85, 19; Malaria, '77, 82; Intermittent fever, '83, 97; '84, 84; Biog. sketch of, '85, 212.
- † Beardsley, Charles [F. and N. H.], m. *Re.* 179; member 1820; Milford.
- † Beardsley, Ebenezer [N. H.], m. '51, 57, 58, 60; '73, 193, 195.
- † Beardsley, Edward McEwen [F.], m. ('73, ii. 41; *Bradley* in the Proceedings); '78, 222; '84, 19.
- † Beardsley, George Lucius [N. H.], m. '76, 12; Sketch of Dr. L. N. Beardsley, '81, 215.
- † Beardsley, Gershom [W.], m. *Re.* 13; '35, 16.
- † Beardsley, Gideon [F.], m. *Re.* 15, 117, 138, 147, 153, 159, 165, 171, 177, 183, 189, 195, 201, 207, 213, 223, 233, 239; Dissertation, *Re.* 240; Hon. deg. of M.D., *Re.* 255.
- † Beardsley, Horace [N. H.], m. '51, 58; '73, 200.
- † Beardsley, Lucius Nichols [N. H.], m. '37, 5; '45, 5; '53, 3; '54, 3; '57, 10; '61, ii. 24; '74, ii. 52; '78, 11, 15; '81, 20; Biog. sketch of, '81, 215.
- † Beardsley, Miles [F.], m. '31, 7.
Beardsley, Samuel Birdseye, m. *Re.* 239.
- † Beardsley, Sheldon [N. H.], m. '32, 8; '34, 3; '43, 3; '56, 3; '69, ii. 77.
- † Beardsley, Wells [L.], m. '35, 10; '41, 3; hon. deg. of M.D., '39, 5; Death mentioned, '62, ii. 67.
- *Beaumont, William, of U. S. Army; hon. mem., '33, 4; exhibits to the Society his patient having a permanent fistulous opening into stomach enabling him to make important physiological experiments, '34, 4; died in St. Louis, Mo., April 25, 1853.
- *Beck, Theodoric Romeyn, of Albany, m. *Re.* 268; hon. mem., *Re.* 261; died Nov. 19, 1855.
- † Beckley, Daniel [N. H.], m. *Re.* 13; '35, 16; see Daniel *Buckley*.
- † Beckwith, Frank Edwin [N. H.], m. '82, 23, 26, 34; '83, 3, 5, 11, 29; '84, 4, 22; '85, 17, 18; '87, 7, 13, 20; '88, 8, 17,

- 18; '89, 21, 31; '90, 12; '91, 28; Laparo-elytrotomy, '82, 121; Rachitis, '84, 45; Report, '88, 203.
- † Beckwith, Frederick Jason [N. L.], m. '84, 19.
Beckwith, George H., m. '63, ii. 86.
- † Beckwith, Josiah Gael [L.], m. '30, 10; '32, 7; '33, 7; '35, 3; '37, 3, 4; '39, 3; '41, 3; '45, 5; '49, 3; '50, 5, 7, 8; '51, 8; '52, 4; '57, 10; '58, 57; '64, ii. 2, 3, 4, 6, 7, 8, 9, 10, 30; '66, ii. 78, 79, 82, 84; '67, ii. 110, 112, 113, 114, 117; '68, ii. 1, 2, 4, 5, 6, 8; '69, ii. 38, 39, 42, 45; Sec'y, '49, 5; '50, 4; '51, 4; '52, 4; '53, 4; '54, 4; '55, 5; '56, 4; '57, 4; Vice-pres't, '58, 6; '59, 3; '60, 6; Pres't, '61, ii. 25; '62, ii. 54; vote of thanks, '58, 10; Address, '62, 143; Biog. sketches by, '63, 292, 299; '64, 55, 58, 61.
- † Beebe, Eleazer Samuel [T.], m. '47, 15.
- † Beecher, Amos [H. and L.], m. *Re.* 290; Hartford Co. 1795; Litchfield Co. 1829.
- † Beecher, Josiah Hall [M. and N. H.], m. '46, 15; '56, 16; '65, ii. 50; '68, ii. 1, 6; M.D., Yale, 1846.
- † Beers, George Lewis [F.], m. '66, ii. 92; '68, ii. 1; '70, ii. 77, 79, 83; '73, ii. 26; Sketch of Dr. Broeck, '68, 172.
- † Beers, Lewis [F.], m. *Re.* 15, 30; '35, 16.
- † Beers, Timothy Phelps [N. H.], m. *Re.* 178, 183, 189, 195, 213, 223, 233, 239, 245, 267; '31, 3; '42, 3; hon. deg. of M.D., *Re.* 246; Biog. sketch of, '59, 85.
- † Beers, Timothy Phelps, Jr. [N. H.], m. '47, 10; '59, 19.
- † Belcher, Elisha [F.], m. *Re.* 15; '35, 16.
- † Belden, Charles Ogilvie [L.], m. '83, 5, 35; '86, 9, '88, 8; '90, 7, 12; '91, 7.
- † Belden, Ezekiel Porter [H.], m. *Re.* 190; died, 1824.
- † Belden, Hezekiah [N. H.], m. *Re.* 17; died, 1849.
- † Belden, Josiah [H.], m. *Re.* 12; '35, 15. *Belding* in *Re.* Yale, 787; died 1818, age 40.
- † Belden, Samuel [M.], m. *Re.* 14; '35, 16.
- * † Bell, Agrippa Nelson [N. H.], m. '46, 13; moved to N. Y.; m. '79, 18; '80, 17; hon. mem., '80, 18; Letter of '81, 21; M.D., Jeff., 1842.
- † Bell, Albert Wells [M.], m. '76, 13; '80, 9; '86, 19; '87, 9; Biog. sketch of, '89, 264.
- † Bell, George Wilson [L.], m. '69, ii. 38.

- † Bell, Homer Simpson [H.], m. '75, ii. 83, 90.
- † Bell, Newton Stephen [H.], m. '76, 12; '90, 26.
- † Bellosa, Frederick [N. H.], m. '71, ii. 113; '73, ii. 30.
- † Benedict, Abel Carter [F.], m. '40, 71; '66, ii. 92.
- † Benedict, Frank Allen [F. and N. H.], m. '90, 32; moved to Seymour.
- Benedict, George, m. '51, 23.
- † Benedict, George Willis [F.], m. '81, 19.
- † Benedict, H(anford) S. [N. H.], m. '42, 8.
- † Benedict, John Mitchell [N. H.], m. '84, 18.
- † Benedict, Michael Dunning [N. H.], m. '35, 5; '36, 8; M.D., Yale, 1836; died, 1885.
- † Benjamin, Daniel [H.], m. '40, 8.
- Benjamin, George Whitfield, m. '69, ii. 57.
- † Bennett, Anthony [L.], m. *Re.* 71, 77.
- † Bennett, Ezra Platt [F.], m. '34, 9; '35, 9; '36, 3; '37, 3; '40, 3; '54, 3; '59, 5; '63, ii. 82; '72, ii. 4; '74, ii. 49, 54; '75, ii. 78, 79, 83; '77, 8; '78, 10; '81, 16; '83, 34; Report, '75, 378; M.D., Berkshire, 1827.
- † Bennett, Farnam O. [W.], m. '66, ii. 92; '73, ii. 26, 28.
- * Bennett, Frederick Norman, m. '40, 6; '63, ii. 85, 88; hon. mem., '64, ii. 7; died, 1885.
- † Bennett, Hanford Nichols [F.], m. '37, 5; '41, 3; '47, 3; '48, 3; '49, 3; '52, 3, 4; '55, 3, 25; '62, ii. 52, 53; '66, ii. 102; '67, ii. 109; death mentioned, '68, ii. 19.
- † Bennett, Platt [F.], m. '34, 9; see Ezra Platt Bennett.
- † Bennett, Maurice Boardman [T.], m. '67, ii. 127; '69, ii. 38; '73, ii. 26; '77, 8, 9; '81, 9, 12, 15; '82, 9; '83, 4; Sketch of Dr. Porter, '75, 333.
- † Bennett, William Comstock [F.], m. '60, 5, 7, 8; '63, ii. 119; '66, ii. 77, 82; '72, ii. 5; Biog. sketch of, '87, 187.
- Bennett, William Henry; see Wm. H. Bunnell.
- † Bentley, Edwin [N. L.], m. '47, 10; '54, 3; '59, 5; '63, ii. 119; '66, ii. 102.
- † Benton, Orange [F.], m. *Re.* 15; '35, 16.
- † Beresford, James [H.], m. '36, 8.
- † Beresford, John [H.], m. '43, 9.
- † Beresford, Samuel Barwick [H.], '36, 8; '40, 3; '47, 3; '52, 9; '59, 5, 7, 10; '67, ii. 109; Vice-Pres't, '67, ii. 112; Pres't,

- '68, ii. 2; vote of thanks to, '69, ii. 42; Tobacco, '69, 173; Biog. sketch of, '74, 277.
- † Berry, John James [F.]. m. '83, 35; Knee joint disease, '83, 105; removed to Portsmouth, N. H.
- † Berry, Silas [L.]. m. *Re.* 13; '35, 16.
- † Bestor, John [H.]. m. *Re.* 12, 83, 87, 91, 92, 95, 97, 101, 102, 107, 111, 117, 119, 123, 129, 137, 147, 153, 160, 165, 171, 177, 183, 189, 195, 201, 207, 223, 239; hon. deg. M.D., *Re.* 185.
- † Betts, Alfred H. [F.]. m. *Re.* 183, 189.
- † Betts, Thaddeus [F.], Corporator Conn. Med. Soc., *Re.* vi.; m. *Re.* 3, 9, 15, 21, 61, 62, 83, 87, 111, 112; '35, 15; Dissertation, *Re.* 33; hon. deg. of M.D., *Re.* 49; Biog. sketch of, '53, 50.
- † Betts, William Coley [F.], m. '39, 10; Wm. B. in the Proceedings; M.D., Yale, 1843.
- † Beusch, Martin George [F.], m. '78, 22.
- Bibbins, William Burr, m. '70, ii. 83.
- † Bidwell, Edwin [M.], m. '46, 10; '54, 18; '59, 6; '67, ii. 110; '77, 9, 10; '89, 9; '90, 9.
- Bidwell, Edwin Curtis, m. '44, 21.
- † Bidwell, Edwin Hamilton [M.], m. '85, 21.
- † Bidwell, John Welch [L.], m. '54, 3; '70, 78; '71, ii. 109; '72, ii. 1; '75, ii. 78; '77, 9, 10; '82, 9, 23; '84, 15; '87, 9.
- † Bigelow, George Newton [M.], m. '31, 8; died 1867.
- * Bigelow, Jacob, hon. mem., *Re.* 268; died 1879.
- Bigelow, James Augustus, m. '63, ii. 120.
- † Bigelow, Jesse [M.]. m. *Re.* 183, 189, 207, 213, 223.
- † Bill, Curtis Harvey [F.], m. '73, ii. 41; '79, 10, 13, 21; '80, 8; '81, 9, 12, 15; '82, 9, 14, 23, 34; '85, 8, 18; '88, 18; '90, 8, 12.
- † Billings, John [N. L.], m. *Re.* 289; North Stonington.
- * Billings, John Shaw, U. S. Army, m. '82, 16; hon. mem., '83, 19; resides in Washington, D. C.
- † Bills, Erastus Bradley [N. H.]. m. '52, 6; '54, 16, 23; M.D., Yale, 1854.
- † Birch, George Washington [F.], m. '58, 53; '60, 5; '65, ii. 35.
- Birch, James Gulick, m. '65, ii. 58.

- † Bird, Seth [L.], Corporator of Conn. Méd. Soc., *Re.* vi.; *m. Re.* 3, 14, 21, 27, 28, 33; '35, 15; hon. deg. of M.D., *Re.* 30; member of com. for examining surgeons in Revolutionary war, '51, 49; Biog. sketch of, '51, 42.
- † Birge, Simeon [H.]. *m. Re.* 185, 190, 289; '30, 3.
- † Bishop, Ebenezer Huggins [N. H.], *m.* '33, 8; '35, 3, 6; '40, 3; '43, 3; '50, 3; '51, 3, 8; '91, 32; dissertation and vote of thanks, '36, 5; Biog. sketch of, '91, 302.
- Bishop, Herbert Martin, *m.* '65, ii. 58.
- † Bishop, Louis Bennett [N. H.], *m.* '90, 31.
- † Bishop, Timothy Huggins [N. H.], *m.* '60, 71; '91, 303.
- † Bissell, Asaph Leavitt [H.], *m.* '30, 9; '34, 3, 6; M.D., Yale, 1815; died 1850.
- † Bissell, Emery [F.], *m.* '38, 9; '39, 3; hon. deg., M.D., '39, 5; death mentioned, '50, 15.
- † Bissell, Evelyn Lyman [N. H.], *m.* '60, 71; '63, ii. 119.
- † Bissell, Gaylord Giles [L.], *m.* '48, 6; '51, 3; M.D., Yale, 1849; died 1879.
- † Bissell, William [L.], *m.* '56, 23; '60, 6; '66, ii. 78.
- † Blackman, George [F.], *m. Re.* 285, 290; '33, 7; '35, 3; '40, 3; '42, 3; '44, 5; '45, 5; '46, 3; '49, 3; '50, 3; '52, 3; '57, 3, 10; '61, ii. 23; '68, ii. 1, 4; hon. deg., M.D., '44, 7; Biog. sketch of, '74, 289.
- Blackman, Josiah, *m. Re.* 179.
- † Blake, Charles Lambert [M. and L.], *m.* '76, 12, 153; '79, 27; '85, 9; '87, 9, 13.
- † Blake, Eli Whitney [N. H.], *m.* '64, ii. 17.
- † Blake, John Ellis [M.], *m.* '60, 5; '62, ii. 52, 55; Essay, '64, 42; Dissertation, '65, 98; Vote of thanks, '65, 42.
- † Blakeman, Bronson [N. H.], *m.* '31, 7.
- † Blakeman, Ira Bronson [N. H.], *m.* '33, 8; M.D., Coll. P. & S., N. Y., 1844.
- † Blakeman, Rufus [F.], *m. Re.* 245, 290; '30, 3; '32, 7; '33, 7; '34, 3; '35, 3, 4; '38, 3; '39, 3; '40, 3; '42, 3; '44, 5; '45, 5; '46, 3; '48, 3; '49, 3; '50, 5, 7; '52, 21; '53, 4; '57, 3; '58, 8; Vice-President, '49, 5; '50, 4; President, '51, 4; '52, 4; Address, '53, 25; Biog. sketch of, '70, 414.
- Blakeslee, Ames Cranmer, *m.* '48, 6; '50, 23.

- † Blakeslee, Edwin [H.], m. '55, 17.
- * Blatchford, Thomas Windeatt, m. '63, ii. 88; hon. mem., '64, ii. 7; died Jan. 7, 1866.
- † Blatchley, Abraham [N. H. and L.], m. *Re.* 190; '32, 10; missionary in Honolulu, 1823; died 1860.
- † Bliss, Charles [W.], m. '66, ii. 92.
- † Bliss, Judah Lee [T.], m. *Re.* 177; '71, 429; M.D., Berkshire, 1825; died 1873.
- Bliss, William Lathrop, m. '47, 5; M.D., Yale, 1848; died 1850.
- Bliven, Jeremiah Parker, m. '34, 6; M.D., Yale, 1835; died 1887.
- Bliven, Nathan Taylor, m. '44, 21.
- † Blodgett, Frederick Porter [N. H.], m. '71, ii. 127; '72, ii. 7.
- † Blodgett, Henry [F.], m. '86, 21; '88, 17.
- † Blodgett, John Hardy [L.], m. '69, ii. 54; honorably dismissed, '73, ii. 27; moved to New Hampshire, m. '77, 10, 19.
- † Blodgett, Joshua [T.], m. '30, 11; '38, 3; '82, 25; Biog. sketch of, '82, 180.
- Blodgett, William, Colonial physician; Sketch of, '51, 35.
- † Bloomfield, Thomas Blanch [M.], m. '76, 13; '85, 23; '89, 9, 21.
- † Bohannon, Charles Gordon [F.], m. '82, 26; Charles J. in the Proceedings.
- † Bohannon, Richard Lee [F.], m. '78, 22; expelled, '87, 22.
- † Bolles, John Calvin [N. L.], m. '41, 11; '49, 3; '55, 3; '56, 3; '58, 5; '90, 8, 20.
- Bolton, H. Carrington; Memoir of Dr. North, '87, 135.
- † Booth, Cyrenus Hard [F.], m. *Re.* 233, 239, 245, 253; Dismissed, '51, 6; M.D., Coll. P. & S., N. Y., 1820.
- † Booth, Franklin [L.], m. '71, ii. 126.
- † Booth, Henry Minor [T.], '50, 14.
- Booth, Wilbur Hiram, m. '75, ii. 98.
- Booth, William Tomlinson, m. '53, 23.
- † Bostwick, David E. [L.], m. '47, 3; '52, 3; '57, 4; '63, ii. 82; '68, ii. 2, 4; M.D., Albany, 1846.
- Boswell, Lemuel, m. '62, 180.
- † Bottom, Abiel [W.], m. '34, 9.
- † Bottsford, Amos [F.], m. *Re.* 15.

- † Bottsford, Russell Bennett [F.], m. *Re.* 190, 213, 290; '41, 3; M.D., Yale, 1816; died 1855.
- † Bouton, George Beriah [F.], m. '56, 23; '66, ii. 92; '70, ii. 77; '76, 21; '77, 9; '82, 9, 14.
- * Bowditch, Henry Ingersoll, m. '69, ii. 44; hon. mem., '70, ii. 85; died Jan. 14, 1892.
- † Bowen, Samuel [W.], m. *Re.* 290; '31, 3; '36, 3; '50, 3; death mentioned, '54, 19.
- † Bowen, William Shaw [H.], m. '70, ii. 82; '72, ii. 5; '74, ii. 54, 57; '75, ii. 77; '76, 19, 23; Reports, '76, 34, 38.
- † Bowers, William Cutler [F.], m. '80, 24; 82, 9.
- † Brace, Edward [H.], m. '33, 8; Biog. sketch of, '80, 164.
- † Bracken, Henry Martyn [W.], m. '83, 35; moved to Minneapolis.
- † Bradford, Benjamin Franklin [N. L.], m. '47, 5; '48, 12.
- † Bradford, Jeremiah [M.], m. *Re.* 14; '35, 16; Biog. sketch of, '77, 153.
- † Bradford, Milton [W.], m. '34, 9; '45, 5; '61, ii. 24, 29; Biog. sketch of, '79, 168.
- † Bradley, Edward M. [F.]. See Beardsley, Edward M.
- † Bradley, Robert Seymour [N. H.], m. '88, 27; Biog. sketch of, '90, 283.
- † Bradley, William Lockwood [N. H.], m. '64, ii. 26; '74, ii. 49, 56; '75, ii. 78; '76, 6, 8, 9; '80, 8, 21; '81, 8, 16; '91, 37. Reports, '80, 28, 39, 41. Alcohol as a dressing for wounds, '66, 253.; Puerperal convulsions, '72, 119; vote of thanks, '72, ii. 9; Skin-grafting, '74, 258.
- † Bradstreet, Edward Thomas [N. H.], m. '78, 22; '83, 5; '89, 8, 21.
- † Bragg, James Dunbar [F.], m. '81, 20, 226.
- † Brainard, Dyer Throop [N. L.], m. *Re.* 201, 233, 239, 245, 259, 267, 285; '31, 3; '33, 7; '34, 3; '35, 3; '36, 3; '37, 3, 4; '39, 3; '40, 6; '41, 3; '48, 3; '50, 3, 8; hon. deg. of M.D. *Re.* 260; Vice-President, '46, 6; death mentioned, '63, ii. 100.
- † Brainard, Hezekiah [M.], m. *Re.* 14; '35, 16; Biog. sketch of, '77, 152.
- † Braman, Francis Nelson [N. L.] m. '68, ii. 16; *F. W. Brannon* in the Proceedings; '73, ii. 26, 32; '74, ii. 50; '75, ii. 78, 82; '77, 9; '78, 11; '81, 8, 13, 23; '82, 8, 34; '83, 5, 16;

- '84, 4, 9, 11; '86, 19; '87, 8, 19; '89, 7; '90, 8, 21, 42, 45; '91, 22; Hot pack, '73, 214; Sketch of Dr. Potter, '80, 167; Labor complications, '83, 136; vote of thanks, '83, 43; Adenoma, '90, 205.
- † Brandegee, Elishama [H.], m. '42, 8; '54, 3; '65, ii. 35, 37; Biog. sketch of, '84, 166.
- † Brandegee, Frank Deshon [N. L.], m. '52, 14; death mentioned, 54, 19.
- † Brayton, Charles Erskine [N. L.], m. '74, ii. 54; '78, 11; '80, 8; '83, 45.
- † Brewer, Edward Pliney [N. L.], '82, 23, 26.
- † Brewer, Hamilton [M.], m. '40, 6; '46, 4; M.D., Yale, 1841; died 1855.
- † Brewster, Francis Augustus [W.], m. '39, 10; '42, 10; Francis B. in the Proceedings; M.D., Yale, 1840.
- † Brewster, John [W.], m. *Re.* 13, 33, 43, 53, 61.
- † Brewster, William Augustus [W.], m. *Re.* 178, 183, 189, 195, 201, 207, 213, 267; '30, 3; '33, 7; '38, 3; hon. deg. of M.D., '30, 6; hon. M.D., Yale, 1830; died 1858.
- † Brigham, Amariah [H.], m. '31, 6; '32, 3, 7; '39, 3; '40, 5; Dissertation and vote of thanks, '41, 7.
- † Brigham, Norman [T.], m. '34, 10; '46, 4; Biog. sketch of, '72, 151.
- † Brinley, Edward Huntington [H.], m. '56, 15; '57, 9; M.D., Jefferson, 1853.
- † Brinley, William Henry [L.], m. '82, 200; '84, 19; resides in Minneapolis.
- *† Brinsmade, Thomas Clark [L.], m. *Re.* 13; '35, 16; removed to Troy, N. Y.; hon. mem., '57, 8; died June 22, 1868.
- † Brockett, Charles Henry [N. H.], m. '87, 26.
- † Brockett, Linus Pierpont [M.], m. '42, 5.
- † Brockway, John Cotton Mather [N. L.], m. *Re.* 289; '30, 9.
- † Bromley, Calvin Barstow [W.], m. '34, 6; '40, 3; '43, 3; '51, 3; '56, 3, 6; '60, 6, 7; '63, ii. 82, 84, 85; '65, ii. 36; '67, ii. 110, 113, 114; Biog. sketch of, '71, 495.
- † Bromley, Daniel Tyler [H.], m. '64, ii. 6; '65, ii. 39; '67, ii. 133; '71, ii. 123.
- † Bronson, Abel [N. H.], m. *Re.* 13; '35, 15. *Brownson* in *Re.*
- † Bronson, Henry [N. H.], m. '34, 8; '37, 3, 4; '41, 3; '48, 3; '49, 3; '59, 10; '62, ii. 71; '63, ii. 107; '65, ii. 35, 37;

- '66, ii. 77, 79; '67, ii. 114, 117; '71, ii. 114; Dissertation and vote of thanks, '39, 5; sketch of Dr. Charles Hooker, '65, 137; Vice-President, '68, ii. 2; President, '69, ii. 38. Address, Science, '70, 305; vote of thanks, '70, ii. 81; '72, ii. 9; Intermittent fever, '72, 29; Hist. Conn. Med. Soc., '73, 192
- † Bronson, Jesse [N. H.], m. '30, 9; M.D., Yale, 1829; died 1831.
Bronson, John R. of Mass., m. '78, 12, 28, 29.
Bronson, Oliver Hayden, m. '54, 11; '56, 23.
- † Bronson, Roswell [N. H.], m. '55, 18; '56, 19; Biog. sketch of, '59, 95.
- † Bronson, Stephen Henry [N. H.], m. '66, ii. 101, 102; '77, 9, 10, 12, 14; '78, 29; '79, 21; '80, 8, 15; '81, 20; Biog. sketch of, '82, 163.
- † Brooks, Jonathan Williams [N. L.], m. '38, 9; '39, 3; moved to Chicago, 1850; died 1891.
- † Brower, Charles S. [L.], m. '84, 19, 173.
Brown, Abner Hartwel', m. '44, 21; died 1851.
- † Brown, Chauncey [H.], m. '35, 8; '39, 3.
- † Brown, David Chester [F.], m. '85, 18; '87, 26; '89, 27; '90, 45; Bacteriology, '90, 188.
- † Brown, Francis Wayland [L.], m. '77, 18; '80, 9, 25.
- † Brown, George [H.], m. '34, 7; M.D., Coll. P. & S., N.Y., 1834.
- † Brown, George H. [H.], m. '30, 9.
- † Brown, George Talmadge [F.], m. '78, 227; '87, 26.
- † Brown, Henry Clinton [N. L.], m. *Re.* 290; '30, 10; M.D., Yale, 1826; died 1868.
- † Brown, Isaac Hayden [T. and H.], m. '32, 11; '33, 8; moved to Waverly, Ill.; died April 13, 1875.
- † Brown, James D. [F.], m. '70, ii. 93, 125, 133.
- † Brown, Orlando [L.], m. '50, 7; '51, 23; '52, 3; '55, 3; '70, ii. 94; '71, ii. 109, 110, 114; '73, ii. 25, 26, 29, 30; '74, ii. 49, 51, 52, 54, 57; '78, 11; '81, 7, 9, 12; '82, 9, 14, 22; '84, 10; '85, 7; '88, 8, 19; Sketch of Dr. Fowler, '79, 170; of Dr. Lyman, '82, 176; of Dr. Downs, '88, 217; Vice-pres't, '88, 17; Pres't, '89, 22; Address to Fellows, '90, 9; Address to Convention, '90, 48.
- † Brown, Samuel William [H.], m. *Re.* 259, 267, 275; M.D., Yale, 1823; died 1862.

- † Brown, William L. M. [T.], m. '70, ii. 94.
 Browne, John M., m. '62, ii. 55.
- † Browne, William Tyler [N. L.], m. '84, 19; '87, 21; '88, 28; '89, 31; '91, 8; Abdom. abscess, '89, 208.
- † Brownell, Clarence Melville [H.], m. '51, 15; '52, 3; '58, 5; Biog. sketch of, '65, 162.
- † Brownell, Edward Rogerson [H.], m. '65, ii. 49.
- † Brownell, Pardon [H.], m. *Re.* 289; '30, 3; '32, 7; '35, 3; '39, 3; '43, 3.
- * Brownell, Richmond, of Prov., R. I.; hon. mem., '30, 6; died Oct. 29, 1864.
- † Brownell, William Richmond [H.], m. '53, 15; '54, 3; '63, ii. 121; M.D., Univ. N. Y., 1852.
- Browning, Albert Gordon, m. '62, ii. 55; '63, ii. 106.
- † Brownlee, Harris Fenton [F.], m. '91, 31.
- † Brownson, William Clarence [F.], 1891, New Canaan; M.D., Univ. N. Y., 1878.
- † Brownson, William Green [F.], m. '66, ii. 77; '70, ii. 77, 81; '76, 5; '79, 9; '80, 9; '83, 3; '84, 9; '85, 16; '86, 19; '87, 21; '88, 18; '89, 31; '90, 8, 26, 39, 40, 41; Report, '88, 25; Sketch of Dr. Richards, '80, 174; Vice-pres't, '81, 15; Pres't, '82, 22; Address to Fellows, '83, 5; Poetical address to Convention, '83, 46; vote of thanks to, '83, 41; Intemperance, '90, 60.
- Bruce, Charles Ely, of N. Y., m. '91, 34.
- Brundage, John Dutton, m. '63, ii. 86; '65, ii. 57.
- † Brush, Francis Vinton [F.], m. '79, 27; '83, 34.
- Brush, Platte Edward, m. '60, 71.
- † Bryan, Elijah Fowler [N. H.], m. *Re.* 289; '30, 9; M.D., Yale, 1829.
- * Buck, Gurdon, m. '72, ii. 5; hon. mem., '73, ii. 29; died March 6, 1877.
- Buck, Thomas Elliot, m. '63, ii. 124; M.D., Dartmouth, 1861.
- Buckingham, Levi, m. *Re.* 190.
- † Buckley, Daniel [N. H.], m. *Re.* 13; '35, 16; *Beckley* in the Proceedings.
- † Buckley, John Francis [H.], m. '88, 27.
- † Buckley, Lawrence Stephen [F.], 1891; Stamford, M.D., Dartmouth, 1889.

- † Buckley, Sylvester [M. and H.], m. *Re.* 183, 189, 201; '48, 11-
'57, 21; Biog. sketch of, '57, 61.
- † Buddington, George Elliott [N. H.], m. '46, 10; '54, 16; M.D.,
Yale, 1848.
- † Buel, Henry Wadhams [L.], m. '55, 3; '62, ii. 52; '70, ii. 78,
83; '72, ii. 1, 4, 7; '74, ii. 50, 52; '75, ii. 77, 81; '76, 6, 9;
'77, 8; '78, 11; '79, 10; '83, 16; '84, 15; '85, 17; '88, 18,
19; Reports, '77, 55; '79, 48; Vice-pres't, '71, ii. 113;
Pres't, '72, ii. 4; Address, '73, 153; vote of thanks to,
'73, ii. 31.
- † Buel, John Laidlaw [L.], 1891; M.D., Coll. P. and S., N. Y.,
1888.
- † Buel, Richard Miles [M.], m. '50, 7; '52, 16, 21; '53, 18.
- † Buel, Samuel [L.], m. *Re.* 153, 159, 165, 173, 177, 245, 259;
'33, 7; '36, 3; '42, 3; hon. deg. of M.D., *Re.* 260; death
mentioned, '55, 21.
- † Buel, Virgil [L.], m. '75, ii. 83; '76, 6.
- † Buel, William [L.], m. *Re.* 201, 207, 213, 223, 229, 233, 239,
253, 259; '34, 3; hon. deg. of M.D., *Re.* 208; vote of
thanks to, *Re.* 208; Treas., *Re.* 267, 275; Vice-Pres't,
Re. 285; '30, 3; '31, 2; Pres't, '32, 6; '33, 6; death
mentioned, '52, 17.
- † Bugbee, LaFayette [W.], m. '69, ii. 53; '73, ii. 29; M.D., Coll.
P. and S., N. Y., 1866.
- Bulkley, Charles, Colonial physician, m. '51, 27.
- † Bulkley, Edward [N. H.], m. '55, 9; '57, 18; '63, ii. 120, 123;
'67, ii. 109; '72, ii. 1; '81, 20; Biog. sketch of, '81, 213.
- Bulkley, Gershom, Colonial physician, sketch of, '51, 27.
- *† Bulkley, Henry Daggett [N. H.], m. '30, 9; '31, 3; moved to
New York; m. '67, ii. 110, 114; '69, ii. 38; hon. mem.,
'51, 11; died Jan. 4, 1872.
- Bulkley, John, Rev., Colonial physician, sketch of, '51, 39.
- Bulkley, Nathan, m. '45, 9; M.D., Yale, 1848.
- Bulkley, Peter, Colonial physician, sketch of, '53, 28.
- † Bulkley, Sturges [F.], m. *Re.* 285; '32, 7; '36, 3; '39, 3;
'41, 3; '43, 3; '47, 3; '48, 3; '58, 19; hon. deg. of M.D.,
'39, 5; Biog. sketch of, '60, 69.
- † Bulkley, William E. [L.], m. '47, 12.
- † Bull, Cornelius Wade [L.], m. '64, ii. 6; '67, ii. 133; '70, ii. 94;
'71, ii. 109, 117.

- † Bull, John Norris [H.], m. '79, 26; '86, 19, 225.
- Bull, Jonathan, Colonial physician, sketch of, '51, 36.
- † Bull, Norman [L.], m. *Re.* 290; '30, 3, 5; died 1830.
- † Bull, Richard Winthrop [F.], m. '73, ii. 41.
- † Bull, Thomas Marcus [N. H.], October, 1891, Naugatuck.
- † Bullock, Samuel [W.], m. *Re.* 290; '32, 9.
- † Bunce, Henry Clinton [H.], m. '50, 11; '53, 3; '63, ii. 119; '71, ii. 109, 111; '72, ii. 2.
- † Bunnell, Wilbur Pitkin [H.], m. 90, 31, 303; W. T. Bunnell in the Proceedings.
- † Bunnell, William Henry [F.], m. '79, 27; '80, 9, 14, 16; W. H. Bennett in the Proceedings.
- † Burchard, William Metcalf [N. L.], m. '77, 18; '79, 10; '81, 8; '91, 7, 15.
- † Burge, William James [L.], m. '54, 18; removed to Pawtuxet, R. I.
- † Burgess, Chauncey [N. L.], m. *Re.* 259, 267, 268; '46, 3; '47, 3; '50, 3; '75, 435; hon. deg. of M.D., '46, 8; death mentioned, '51, 19.
- † Burgess, Franklin [W.], m. '56, 17.
- † Burgess, Horace [W.], m. '46, 10; '50, 13; '52, 3; M.D., Univ. N. Y., 1848; death mentioned, '55, 21.
- † Burgess, Mowrey [W.], m. *Re.* 275, 290; '32, 7; '35, 3; '44, 5; hon. deg. of M.D., '31, 5; death mentioned, '57, 21.
- † Burgess, Reuben [N. L.], m. *Re.* 259, 289; '31, 7; died, 1832.
- † Burke, Eliphalet [H.], m. *Re.* 83.
- † Burke, George Whitney [M.], m. '52, 16; '57, 4, 13; '63, ii. 82, 83, 84, 85, 87, 88, 89, 90; '64, ii. 2, 3, 4, 6, 7, 9, 10; '70, ii. 78, 79, 84; '77, 9, 10, 12, 15; '83, 5, 16; '87, 9; Case of Scirrhus, '64, 47; Prize Essay, '65, 108; awarded prize, '65, ii. 37, 61; '69, ii. 38; Report, '77, 101.
- † Burke, William Craige [F.], m. '76, 12; '78, 14, 29; '81, 9, 16, 23; '83, 3, 5, 11, 29; '87, 8; Reports, '78, 139; '79, 10; sketch of Dr. Barbour, '80, 170; of Dr. Hill, '81, 221; Perinæum, '81, 189; vote of thanks to, '81, 23.
- † Burnap, Sidney Rogers [H.], m. '72, ii. 7; '74, ii. 52; '75, ii. 77; '76, 6; '88, 7; Sketch of Dr. Wood, '86, 173.
- † Burnett, Frank George [H.], m. '87, 26.
- † Burnett, Peter Valentine [M.], m. '79, 27; '85, 7, 9, 16; '86, 18; '87, 20; removed to Brooklyn, N. Y.

- † Burnham, Jedediah [N. L.], m. *Re.* 16; Biog. sketch of, '62, 179.
- † Burns, Edward [H.], m. '88, 27.
- † Burr, David [F.], m. '41, 12.
- † Burr, David Silliman [F.], m. '51, 23; '53, 3; '54, 3; '56, 3; '58, 5; '60, 5, 7; '62, ii. 52, 54; Obituary notice of, '65, ii. 53.
- † Burr, Horace [M.], m. '41, 7; '44, 5; '61, ii. 23, 25.
- † Burritt, Anthony [L.], m. *Re.* 14, 72, 83, 87, 91; '33, 9.
- † Burritt, Anthony Benjamin [N. H.], m. '32, 8; '34, 8; M.D., Yale, 1832; died 1886.
- † Burritt, Henry Lewellyn Wakeman [F.], m. '43, 6; '44, 21; '47, 11; '51, 3; '55, 3; '58, 5; expelled, '74, ii. 53.
- Burtch, George Washington, m. '56, 9; M.D., Yale, 1858.
- † Burtch, Harry Mercein [L.], m. '89, 27.
- † Burwell, Jeremiah [H.], m. '41, 10; '79, 27.
- † Bush, George Marland [N. H.], m. '81, 239; '82, 26, 187, 200.
- † Bush, Jonathan [L.], m. *Re.* 17.
- † Bushee (James) [L.], m. *Re.* 17; *Busher* in the Proceedings.
- Bushnell, Caleb, Colonial physician; Sketch of, '62, 170.
- Bushnell, George Ensign, m. '81, 239.
- † Butler, Benjamin [N. L.], m. *Re.* 16.
- † Butler, John Simpkins [H.], m. '44, 13; '45, 5; '71, ii. 113, 115, 117; '78, 25; '91, 32.
- † Butler, Thomas Belden [F.], m. '32, 9; died June 8, 1873.
- † Buttolph, Horace [L.], m. '38, 10.
- † Buzzel, Samuel [N. L.], m. *Re.* 16; dismissed 1799.
- † Byington, Charles [H.], m. *Re.* 289; '42, 10; '53, 16; '56, 3; death mentioned, '58, 19.
- † Byington, Noah Henry [N. H. and H.], m. '34, 8; '50, 11; '52, 13; '76, 170; Biog. sketch of, '78, 199.
- † Byles, Josiah [N. L. and M.], m. '40, 9; '42, 11.
- † Byron, James Tolman [F.], '90, 32.
- † CAHILL, Thomas Matthew [N. H.], m. '89, 26.
- † Calef, Jeremiah Francis [M.], m. 80, 194; '81, 29; '83, 17; '84, 5, 9; '87, 9, 19; '88, 29; '91, 9, 17, 21; Report, '83, 27; Sketch of Dr. Lee, '82, 179; essay, '89, 100; vote of thanks to, '89, 31.
- † Calhoun, John [L.], m. *Re.* 207, 223, 290; '30, 11; '33, 10.
- Call, William, m. '37, 5.

- † Camp, Bushrod [L.], m. *Re.* 290, '30, 10.
- † Camp, Charles Welford [L.], m. '77, 18; '89, 9.
- † Camp, David Bushrod Washington [L.], m. '33, 10; '53, 3; '58, 6; Biog. sketch of, '76, 142.
- † Camp, Joseph William [H.], m. '39, 12; '42, 8; M.D., Yale, 1835.
- † Camp, Otis William [H.], m. '40, 8.
- Camp, Walter Chauncey, m. '82, 200.
- Camp, William, m. '56, 23.
- † Campbell, Allen [W.], m. *Re.* 13, 21; '35, 16.
- † Campbell, Arthur Joseph [M.], m. '86, 22; '91, 9.
- † Campbell, Harvey [W.], m. *Re.* 245, 267; '33, 7; '38, 3; '42, 3; '46, 3; '54, 3; '61, ii. 24, 25; '65, ii. 36; Biog. sketch of, '79, 169.
- † Campbell, James [H.], m. '72, ii. 7; '76, 15; '77, 9, 20; '80, 16; '82, 22; '83, 17; '84, 15; '85, 17; '91, 17, 21; Report, '80, 30; Pneumogastric nerve, '77, 107; vote of thanks to, '77, 20.
- † Campbell, Wellington [N. H.], m. '79, 26.
- † Campbell, William Henry [W.], m. '30, 10; '34, 3; death mentioned, '50, 15.
- † Candee, Joel Gillett [L.], m. *Re.* 275, 290; '32, 7; M.D., Yale, 1825; died 1870.
- † Canfield, Joel [N. H.], m. *Re.* 275, 289; '31, 3; '34, 3; '38, 3; '40, 3; '44, 5; '50, 3; '55, 3; '60, 6; '62, ii. 71; '64, ii. 1, 3, 6; '72, ii. 1, 3; '74, ii. 52; hon. deg. of M.D., '47, 7; Biog. sketch of, '77, 158.
- † Canfield, William [L.]. A new license furnished him, he having lost his certificate during the "late war" (of 1812); *Re.* 224.
- † Cannon, Frederick Miller [L. and N. H.], m. '82, 27; '91, 330.
- † Card, Everett Delos Clark [W.], m. '87, 26; '89, 8; M.D., Univ. N. Y., 1882.
- † Carleton, Charles Monro [N. L.], m. '63, ii. 123; '65, ii. 35, 37, 40, 43; '66, ii. 77, 79, 80, 83; '67, ii. 113; '70, ii. 77, 83; '72, ii. 2, 3, 4; '74, ii. 52; '75, ii. 81; '76, 10; '77, 9, 10, 11; '79, 179, 180; '80, 8, 14, 19, 22; '81, 16; '83, 29; '84, 16; '85, 17; Reports, '74, 266; '78, 113; Hernia, '65, 126; Ovariectomy, '74, 244; Vice-President, '77, 13; Pres-

- ident, '78, 15; Address to Fellows, '79, 9; President's address, '79, 30; Biog. sketch of, '87, 181.
- † Carmalt, William Henry [N. H.], m. '77, 17; '78, 11, 15; '79, 21; '80, 25; '81, 8, 12, 13; '82, 8, 13, 17; '83, 5, 11, 15, 16, 19; '84, 22; '85, 7, 11, 15, 17; '86, 8, 13, 16, 19; '87, 2, 8, 29, 39, 40, 109; '88, 15; '90, 12, 20, 21, 33; Sketch of Dr. Bronson, '82, 163; of Dr. Vinal, '86, 187; of Dr. Farnam, '87, 176; Ophthalmoscope, '80, 74; Cases of interest, '84, 147.
- † Carpenter, Chester [T.], m. *Re.* 189.
 Carpenter, Cyril, Memorialist of 1763 to General Assembly of the Colony of Connecticut, *Re.* iv.; m. '51, 51.
 Carpenter, Eli, Colonial physician; Sketch of, '70, 438.
 Carpenter, Joel, Colonial physician; Sketch of, '70, 438.
- † Carpenter, Patrick [W.], m. *Re.* 285; '32, 7.
- † Carpenter, Ruggles [T.], m. *Re.* 14, 62, 71, 83, 84, 87, 91, 95, 101, 102, 111, 117, 119, 123, 129, 133, 137, 143, 147, 153, 177; Sketch of, '70, 438.
- † Carpenter, Samuel [T.], m. *Re.* 224; '34, 10.
- † Carrington, Charles [H.], m. '65, ii. 49; '66, ii. 77, 79; '67, ii. 109; '76, 5.
- † Carrington, Chester Johnson [L.], m. '33, 10; '38, 10.
- † Carrington, Edward [N. H.], m. '73, 193, 194, 195.
- † Carrington, Edwin Wells [H.], m. '33, 8; '46, 3; death mentioned, '52, 17.
- † Carrington, Elias [N. H.], m. *Re.* 12; '35, 15; member of exam. com. for army surgeons in the Revolutionary war, '51, 49; died Aug. 6, 1800.
- † Carrington, Henry Austen [H. and N. H.], m. '49, 14; '70, ii. 78, 85; '71, ii. 109, 113; '72, ii. 1, 4, 8; '73, ii. 25, 26, 28, 31; '74, ii. 49, 55; '79, 21; '85, 8, 19; '86, 22, 23; '87, 18, 22; '88, 19, 20, 28; Reports, '71, 448; '72, 20; '73, 181; '74, 234, 266; '86, 212; '88, 25; Essay, '70, 365; M.D., Harvard, 1848.
- † Carrington, Jesse [L.], m. *Re.* 13, 21, 27, 28, 34, 45, 62, 71, 72, 83, 87, 91, 95, 101, 102, 107, 117, 119, 123, 137, 147, 153, 159, 165, 171, 177, 183, 189, 195, 201, 213; hon. deg. of M.D., *Re.* 190.
- † Carrington, William [L.], m. *Re.* 254, 290; '38, 10.

- † Carter, Benjamin [W.], *m. Re.* 13; '35, 16.
- † Carter, Ralph [H.], *m. Re.* 285; '31, 3; '37, 3; '44, 5; hon. deg. of M.D., '38, 5; death mentioned, '55, 21.
- † Carter, Samuel [M.], *m. Re.* 159, 171, 177, 183, 189, 195, 201, 223, 233, 239, 253, 267, 275, 285; '30, 3, 5; '32, 3, 7; '34, 3; hon. deg. of M.D., *Re.* 235; Biog. sketch of, '82, 149.
- Carver, Lewis Edwin, *m.* '35, 5.
- † Carver, Samuel D. [T.], *m.* '33, 11.
- † Case, Augustus R. [H.], *m.* '34, 7; '39, 3.
- † Case, James [L.], *m. Re.* 285.
- † Case, Jairus [H.], *m.* '31, 8; '38, 3; dismissed, '55, 11.
- † Case, Jonas [L.], *m. Re.* 295.
- † Casey, William Bryan [M.], *m.* '41, 13; '43, 3; '48, 3, 8; '54, 4; '55, 3; '58, 5, 8; '63, ii. 123; Dissertation on Cervix Uteri, '54, 61; vote of thanks, '54, 5; Biog. sketch of, '70, 403.
- † Cassidy, Patrick [N. L.], *m.* '71, ii. 124; '72, ii. 2; '75, ii. 78; '82, 8, 14; '84, 4; '85, 8, 15, 16, 22; '86, 8, 13, 17, 19; '87, 21; '88, 7, 29; '89, 8, 22; Report, '83, 71; Essay, '85, 131, 195; Sketch of Dr. Warren, '73, 222.
- † Castle, Andrew [N. H.], *m. Re.* 289; '57, 3; death mentioned, '62, ii. 67.
- † Castle, Frank Edwin [N. H.], *m.* '70, ii. 95; '75, ii. 83; '89, 8, 15.
- † Castle, Jehiel [N. H.], *m.* '30, 9.
- † Catlin, Abel [L.], *m. Re.* 14, 72; '35, 16; regimental surgeon Revolutionary war, '51, 49; death mentioned, '56, 19.
- † Catlin, Benjamin Hopkins [M. and N. H.], *m. Re.* 290, '31, 3; '36, 3; '40, 3; '49, 3; '50, 3; '56, 24; '66, ii. 77, 79, 80, 81, 83, 104; '67, ii. 112; '68, ii. 2, 5; '70, ii. 86; '73, ii. 29; '76, 6, 7, 9, 10, 14; '77, 8, 15, 16; '78, 15; '80, 13; Report on registration, '62, ii. 73; hon. deg. of M.D., '40, 5; Hypodermic medication, '62, 182; Diphtherial croup, '75, 366; Sewage, '76, 119; Vice-Pres't, '54, 4; '55, 5; Pres't, '56, 4; '57, 4; Address to Convention, '57, 27; '58, 23; vote of thanks to, '58, 10; Biog. sketch of, '80, 164.
- Catlin, Benjamin Spencer, *m.* '63, ii. 105.
- † Catlin, Conant [L.], *m. Re.* 201, 207, 213, 233, 239, 253, 259, 275; '30, 3; hon. deg. of M.D., *Re.* 277; died 1830.

- † Catlin, Lyman [L.], m. *Re.* 208, 267, 290; '32, 3, 7; '34, 3; '36, 3; hon. deg. of M.D., '35, 5; died 1836.
- † Catlin, Samuel, Jr. [L.], m. '50, 7; '51, 23; '52, 3.
- † Catlin, Samuel Hall [N. H.], m. '47, 5; '48, 6; '49, 14; M.D., Yale, 1849.
- † Catlin, William Conant [N. H.], m. '45, 13; M.D., Yale, 1840; died 1886.
- Chaffee, Hezekiah, Colonial physician, m. '61, 135.
- Chalker, Isaac, regimental surgeon in Revolutionary war, m. '51, 49.
- † Chamberlain, Charles Walter [H.], m. '72, ii. 7; '76, 6, 7, 9, 14; '77, 8, 10, 12, 13, 14, 16, 19, 20, 21; '78, 10, 12, 13, 15, 17, 19, 25; '79, 9, 11, 12, 17, 18, 22; '80, 7, 14, 20, 25; '81, 7, 12, 13, 14, 17, 34, 53; '82, 13, 16, 17, 19, 24, 29, 30, 33; '83, 11, 13, 15, 20, 29, 42, 44; '84, 3, 11, 13, 14, 15, 17; '85, 9, 19; Reports, '78, 40, 67, 69; '79, 61; '80, 31; '81, 78; '82, 47; '83, 64; vote of thanks to, '83, 40; Sec'y, '76, 8; '77, 13; '78, 15; '79, 20; '80, 21; '81, 15; '82, 22; Diphtheria, '76, 42; Laryngeal phthisis, '76, 130; Stricture of œsophagus, '77, 76; Biog. sketch of, '85, 204.
- † Chamberlain, Myron Newton [N. H.], m. '67, ii. 132; '78, 11; '83, 4; Prop. Med. '82, 59.
- † Champlin, Stephen [H.], m. '39, 12.
- † Chandler, George [W.], m. '31, 8; M.D., Yale, 1831.
- * Chandler, George, hon. mem., '57, 8; resides in Worcester, Mass.
- * Channing, Walter, hon. mem., *Re.* 268; m. *Re.* 277; died 1876.
- † Chapin, Frederick Windle [W.], m. '84, 19; '85, 15.
- † Chapin, Lebbeus Cornelius [N. H.], m. '64, ii. 26; '66, ii. 91.
Chapin, Samuel Farnam, m. '57, 7; '60, 71.
- † Chapman, Albert Taylor [N. L.], m. '65, ii. 50; '69, ii. 37; '70, ii. 77; '72, ii. 2; '73, ii. 26; '74, ii. 50; '90, 20.
- † Chapman, Clark [L.], m. *Re.* 289; '31, 8.
- † Chapman, Elisha [N. H.], m. *Re.* 13, 79; '35, 16; removed to New York.
- Chapman, George Byron, m. '75, ii. 99.
- † Chapman, Isaiah [H.], m. *Re.* 12.
- † Chapman, Sherman Hartwell [N. H.], m. '74, ii. 54; '76, 14; '78, 29; '81, 16; '83, 28; Report, '76, 63; Laryngitis, '75,

- 301; Chloral hydrate, '75, 357; Throat and Ear diseases, '78, 181; Vote of thanks to, '75, ii. 84; '78, 29.
- † Chapman, Solomon [T.], m. '39, 15.
- † Chapman, William [W.], m. '42, 10.
- † Chase, Seth Lyman [N. L.], m. '86, 21; Report, '90, 272.
- † Cheney, Penuel [W.], m. *Re.* 13; '35, 16.
- Cheney, Samuel, Regimental surgeon in Revolutionary war, '51, 49.
- † Chichester, (William) [F.], m. '35, 9.
- † Child, Edward Moses [N. H.], m. '78, 22.
- † Childs, Henry Edward [H.], m. '63, ii. 86; expelled, '73, ii. 27.
- † Childs, Samuel Beresford [H.], m. '88, 27.
- † Childs, Samuel R. [L.], m. *Re.* 259, 267, 275.
- † Child, Seth Lee [M. and H.], m. '38, 11; '41, 3; '46, 12; '49, 3; '56, 3; '62, ii. 51, 54, 55, 56, 59.
- Chittenden, William Henry, m. '82, 200; '84, 192.
- † Chubbuck, John [H.], m. *Re.* 214, 289; '30, 8.
- † Church, George H. [W.], m. *Re.* 239.
- † Church, Henry [H.], m. '46, 12; '48, 12.
- † Church, Robert Porter [W.], m. '39, 14.
- † Church, Samuel Porter [N. H.], '46, 13; moved to Ithaca, N. Y.
- † Churchill, Asa Hopkins [N. H.], m. '57, 18, 25; '62, ii. 51; '67, ii. 109; '72, ii. 1, 3, 5; '78, 11, 12; '81, 8; '84, 16; Sketch of Dr. Catlin, '80, 164.
- † Churchill, John Henry [M.], m. '74, ii. 55.
- Clark, Alpheus Bryant, m. '50, 23.
- † Clark, Arthur Norman [F.], m. '91, 31.
- Clark, Elijah Wells, '38, 5; M.D., Yale, 1839.
- † Clark, Franklin Pierce [F.], m. '77, 18.
- † Clark, Isaac [W.], m. *Re.* 290; '31, 3; '36, 3.
- † Clark, James [F.], Corporator of Conn. Med. Soc., *Re.* vi.; m. *Re.* 3, 15, 21, 39; '35, 15; '53, 33; Sec'y *Re.* 27, 33; resigned *Re.* 40; hon. deg. M.D., *Re.* 40.
- † Clark, John [W.], Corporator of Conn. Med. Soc., *Re.* vi.; m. *Re.* 3, 9, 11, 13, 21, 27; '35, 15; mem. com. for examining surgeons Revolutionary war, '51, 49.
- † Clark, John, Jr. [W.], m. *Re.* 13; '35, 16.
- Clark, Joseph, Colonial Physician, sketch of, '53, 33.

- Clark, Lucius Wardsworth, m. '63, ii. 122; M.D., Univ. Vt., 1863.
- † Clark, Smith [M.], m. *Re* 5, 14, 30, 62, 71, 83, 87, 95, 96, 102, 111, 119, 123, 133, 137, 147, 153, 159, 165, 171; Biog. sketch of, '77, 152.
- † Clark, S(amuel) Williams [N.H.], m. '50, 12; M.D., Univ. N. Y., 1848; death mentioned, '53, 19.
- † Clark, Thaddeus [W.], m. *Re* 13, 53, 61, 67, 71, 87, 95, 101, 102, 112, 119; Dissertation, *Re* 72.
- † Clark, Timothy [L.], m. *Re* 13, 111, 165, 171.
- † Clark, William [F.], m. *Re* 16.
- † Clark, William Henry [T.], m. '83, 36; '87, 15; resides in Ipswich, Mass.
- † Clark, William Nelson [T.], m. '32, 10; '47, 3; '54, 3; '56, 3, 6; '58, 6; '63, ii. 82, 87; '67, ii. 110, 113; '71, ii. 110; '72, ii. 1; '80, 9; '85, 9; '87, 9, 19; hon. deg. M.D., '49, 7; Paralysis, '75, 392; Biog. sketch of, '89, 250.
- † Clarke, Ellery Channing [F.], m. '80, 24.
- † Clarke, Samuel Fulton [N. H.], m. '37, 9.
- † Clary, George [H.], m. '57, 17, 25; '63, ii. 122; '68, ii. 1; '69, ii. 37; '81, 16; '84, 4, 9, 15; '85, 8.
- † Clason, Abraham Travis [F.], m. '79, 27.
- † Cleavland, Daniel Athearn [M.], m. '71, ii. 126; '78, 225, 226; '79, 29, 179, 180; '80, 7, 21, 25, 26; '81, 9, 12, 13, 14, 16, 17, 35; '82, 18, 20, 21, 32, 33; '83, 3; '84, 5; '87, 9, 19, 22; '89, 7, 14, 15, 18, 20, 31; '90, 9, 18, 19, 20, 21, 26; '91, 21, 22; Reports, '75, 389; '75, ii. 78, 84; '76, 22, 89; '77, 14; '80, 193; '81, 53; '82, 200; vote of thanks to, '80, 26.
- † Close, Thomas [F.], m. '34, 8.
- Clum, Franklin D., m. '75, ii. 98, 99.
- † Coates, Alfred Washington [N. L.], m. '42, 5; '51, 3; '59, 5; '61, ii. 23; '81, 20; Biog. sketch of, '81, 220.
- † Coates, Elias Franklin [N. L.], m. '42, 5; '54, 3; '75, ii. 82; '76, 20; '78, 20; '84, 3, 23; Traumatic lesion of knee-joint, '68, 164; Uterine diseases, '70, 377; Extra-uterine preg., '78, 117; Puerperal eclampsia, '80, 43; Parturition, '84, 128; Sketch of Dr. Hyde, '74, 267, of Dr. Manning, '83, 173; Biog. sketch of, '87, 184.

- † Coates, Franklin Avery [N. L.], m. '76, 12; '80, 8; '83, 29; '91, 21; Report, '83, 73; Sketch of Dr. E. F. Coates, '87, 184.
- Cobb, Samuel, Biog. sketch of, '70, 427.
- † Cockee, William [L.], m. '42, 10.
- Cogswell, James, mem. com. for examining surgeons in Revolutionary war, '51, 49.
- † Cogswell, Mason Fitch [H.], Corporator of Conn. Med. Soc., *Re.* vi.; m. *Re.* 12, 27, 28, 30, 33, 34, 39, 45, 50, 57, 62, 67, 83, 101, 111, 133, 137, 143, 229, 239, 245; '30, 5; Treas'r, *Re.* 34, 43, 53, 61, 71; Vice-Pres't, *Re.* 129, 147, 153, 159, 165; Pres't, *Re.* 171, 177, 183, 189, 195, 201, 207, 213, 223; hon. deg. M.D., *Re.* 155.
- * Cogswell, Mason Fitch, hon. mem., '55, 11; died in Albany, Jan. 21, 1865.
- † Cogswell, William Badger [F.], m. '84, 19; '86, 8, 13; '90, 8, 26.
- † Cogswell, William Henry [W.], m. *Re.* 275, 290; '39, 3; '42, 3; '46, 3; '48, 3; '51, 3; '60, 6; '72, ii. 4; '74, ii. 52; Vice-Pres't, '53, 4; Pres't, '54, 4; '55, 5; Biog. sketch of, '77, 156.
- † Coholan, Michael James [H.], m. '77, 17.
- † Coit, Joseph [W.], m. *Re.* 13; '35, 16.
- † Coit, Thomas [N. L.], Corporator Conn. Med. Soc., *Re.* vi.; m. *Re.* 3, 15; '35, 15; hon. deg. M.D., *Re.* 202; withdrew from the Society in 1804.
- † Coit, Thomas, Jr. [N. L.], m. *Re.* 16, 101, 102, 111, 117, 119, 123, 138, 147, 153, 159, 165, 171, 177, 183, 189; '30, 9.
- Colardeau, St. Felix, m. '58, 53.
- † Colburn, Josiah M. [N. H.], m. *Re.* 224, 289; '37, 3.
- Cole, Jesse, sketch of, '77, 140.
- † Coleburn, Arthur Burr [M.], m. '91, 31.
- † Coleman, Aaron [L.], m. *Re.* 14, 53, 57.
- † Coleman, Asaph [H.], m. *Re.* 12; '35, 15; army surgeon in War of the Revolution.
- Coleman, Henry, m. '74, ii. 67.
- † Coleman, Noah [W.], m. *Re.* 13; '35, 16.
- Collins, Henry Augustus, m. '48, 6; '50, 23.
- Collins, Isaiah, clerical physician, '51, 38.

- † Collins, Lewis [L. and N. H.], m. *Re.* 14, 27, 33, 39, 43, 61, 67, 71, 289; Vote of thanks to, *Re.* 39.
- Collins, Timothy, Colonial physician, Sketch of, '51, 48.
- † Collins, William Droien [H.], m. '71, ii. 131.
- † Comings, Benjamin Newton [T. and H.], m. '48, 14; '50, 3; '58, 8; '63, ii. 122; '64, ii. 1, 3; '65, ii. 35, 37, 41; '72, ii. 6; '73, ii. 28, 29; '74, ii. 50, 51; '79, 13, 20; '83, 3; '85, 7, 13; Report, '77, 74; Sanitary report, '56, 29; Inebriate asylums, '73, 157; Inebriety in reference to Life Insurance, '83, 83; Letter of '87, 27; Vice-Pres't, '83, 28; Pres't, '84, 15; Address to Fellows, '85, 9; Address to Convention, '85, 24.
- † Comstock, Daniel [F.], m. *Re.* 165, 171, 177, 183, 189, 195; hon. M.D., 1827; died 1848.
- † Comstock, Heman N. [L.], m. *Re.* 14; '35, 16.
- † Comstock, John Lee, [H.], m. *Re.* 213, 259; '34, 3; Army surgeon, war of 1812.
- † Comstock, Joseph [N. L.], m. *Re.* 275, 290; '36, 3; '40, 3; '49, 3; hon. deg. M.D., '31, 5.
- † Comstock, Nathan Lee [N. L.], m. '48, 12.
- † Cone, Charles Cullen [N. L.], m. '46, 10; '48, 12; '53, 16; M.D., Yale, 1847.
- † Cone, Edward Salmon [M.], m. *Re.* 214, 267; '30, 11.
- † Cone, Jonah [M.], m. *Re.* 14; '35, 16; Biog. sketch of, '82, 150.
- † Conkey, Caroline Root [N. H.], m. '88, 27.
- † Conklin, William Homer [N. H.], m. '85, 20.
- † Conland, James [M.], m. '80, 24, 191.
- † Connor, William Joseph [W.], m. '87, 26.
- † Converse, George Frederick [N. H.], m. '88, 27.
- † Converse, Joseph Pride [H.], m. *Re.* 289; '30, 9; hon. deg. of M.D., '48, 9; died 1888.
- † Coogan, Joseph Albert [H.], m. '76, 12.
- † Cook, Ansel Granville [H.], m. '89, 26.
- † Cook, Calvin [L.], m. '34, 9; '37, 11.
- † Cook, Erastus Franklin [H.], m. *Re.* 289; '30, 8.
- † Cook, Friend [N. H.], m. *Re.* 289; '30, 9; M.D., Yale, 1821; died 1857.
- † Cook, Royal [L.], m. *Re.* 290.
- Cooley, Samuel, Colonial physician, Sketch of, '71, 431.

- Cooley, William, m. '71, 431.
- † Cooper, Louis Edward [N. H.], m. '88, 27.
- Copp, John, Colonial physician; m. '51, 35; '53, 31.
- *Corliss, Hiram, m. '64, ii. 8; '65, ii. 36, 42; '71, ii. 110, 116; '78, 22; hon. mem. '65, ii. 43; died Sept. 7, 1877.
- † Cornwall, Edward Thomas [N. H.], m. '82, 26; expelled '87, 22.
- Cornwall, Henry Sylvester, m. '63, ii. 106.
- † Cornwall, Joshua [L.], m. *Re.* 207, 290; hon. deg. of M.D., *Re.* 277.
- † Cornwall, Thomas T. [N. H.], m. *Re.* 13; '35, 16.
- † Corson, Adam Clark [H.], m. '73, ii. 30, 39; died in Hartford, Oct. 6, 1873, æt. 35.
- *Cotting, Benjamin Eddy, m. '67, ii. 110, 114; '68, ii. 7; '79, 18; '90, 39; hon. mem., '69, ii. 41; resides in Boston, Mass.
- Cotton, James Watson, *Re.* 185; M.D., Yale, 1816.
- † Cotton, John [W.], m. '76, 12; '80, 9, 14, 27; '81, 23; Report, '80, 54.
- † Couch, Charles F. [L.], m. '67, ii. 126; '78, 23; Sketch of Dr. St. John, '78, 217.
- † Cowdry, Jonathan [L.], m. *Re.* 13; '35, 16.
- † Cowell, George B. [F.], m. '91, 31.
- Cowles, Edward Orson, m. '62, ii. 71; '63, ii. 122.
- Cox, Luther Clark, m. '56, 23.
- † Craft, Edward [N. H.], m. *Re.* 13; '35, 16.
- † Craft, Pearl [N. H.], m. *Re.* 171, 177, 183, 189, 195, 207, 213.
- † Cragin, George Edward [N. H.], m. '68, ii. 23; '70, ii. 92.
- † Cramer, Lucy M. [N. H.], m. '86, 21; '89, 31; see Lucy Creemer Peckham.
- Crandall, Charles C., m. '72, ii. 16; see Charles C. *Cundall*.
- † Crandall, Henry Newton [N. L.], m. '72, ii. 15; H. W. Crandall in the Proceedings.
- † Crane, Augustine Averill [N. H.], m. '88, 27.
- † Crane, John Washington [H.], m. *Re.* 289; '30, 9.
- † Crane, Robert [N. H.], m. '42, 5; '43, 10; M.D., Yale, 1843.
- † Crary, David [H.], m. '40, 8; '48, 3; '56, 3, 6; '62, ii. 51, 52; Anomalous cases, '62, 212.
- † Crary, David, Jr. [H.], m. '67, ii. 124; '69, ii. 58.
- † Creed, Cortlandt Van Rensselaer [N. H.], m. '57, 25; 85, 20.

- † Creemer, Lucy M. [N. H.]; see Lucy Creemer Peckham.
- † Cremin, Lawrence Michael [H.], m. '84, 19.
- † Cremin, Michael Aloysius [N. H.], m. '77, 18; '86, 19; '87, 8, 13; '88, 8, 19; '89, 21, 276.
- † Cressy, Noah [H.], m. '69, ii. 54; '72, ii. 9; '81, 19; Essay, '81, 201.
- † Crighton, Andrew John [N. L.], 1891; Colchester; M.D., Coll. P. & S., Balt., 1891.
- † Crofton, Joseph Richard [N. L.], 1891; M.D., Coll. P. & S., N. Y., 1889.
- † Cromdal, Amos [T.], m. *Re.* 79.
- † Cronin, Joseph Francis [N. L.], m. '86, 21.
- † Crossfield, Frederick Solon [H.], m. '79, 26; '81, 16; '84, 15; '88, 8.
- † Crothers, Thomas Davison [H.], m. '78, 22; '83, 41; Inebriate automatism, '83, 142; Essay, '87, 73.
- † Crowley, William Holmes [H.], 1891; Collinsville; M.D., Buffalo Med. Coll., 1890.
- † Cumming, James Russell [F.], m. 63, ii. 121; '73, ii. 26, 28, 29; '75, ii. 81; '91, 32; Biog. sketch of, '91, 309.
- † Cummings, William Willis [F.], m. '82, 26; '85, 8; '89, 8, 21, 81; Pneumonia, '91, 243.
- † Cundall, Charles Carroll [W.], m. '72, ii. 16, 18; M.D., Univ. N. Y., 1858.
- † Cunningham, John Bernard [N. L.], m. '91, 31.
Currier, Andrew Fay, m. '81, 239; '90, 34, 45.
Curry, James Hart, m. '52, 21; '65, ii. 36, 38; '66, ii. 78; '91, 34.
- † Curtis, Benjamin [F.], m. *Re.* 15, 87, 91, 111, 117, 123, 129, 133, 137, 143, 147.
- † Curtis, Benjamin, Jr. [F.], m. *Re.* 159, 165, 171, 177, 183, 189.
- † Curtis, Ezra [F.] m. *Re.* 15, 71; '35, 16.
Curtis, Henry Holbrook, m. '80, 194; '81, 239.
- † Curtis, Jonathan Strong [H.], m. '55, 17; '59, 9.
- † Curtiss, Philo Nichols [N. H. and F.], m. '42, 9; '43, 11; '44, 14; M.D., Yale, 1842.
- † Curtiss, William Mark [N. H.], m. '41, 7; '43, 10; M.D., Yale, 1842.
- Cushing, Ernest Watson, of Boston, m. '87, 21; Erosion of Cervix Uteri, '87, 95.

- † Cutler, Edward Rowland [H.], m. '66, ii. 90; '67, ii. 124; M.D., Harvard, 1863.
Cutter, Ephraim; Essay, '66, 241; M.D., Harvard, 1856.
- † Cutter, Jonas [H.], m. *Re.* 185, '14, 4; misprinted *James* in *Re.*; M.D., Yale, 1814; died 1820.
- † DAGGETT, David Lewis [N. H.], m. '43, 9; '45, 5; '53, 3; '71, ii. 113, 114, 116; '75, ii. 81; '78, 11, 13; Sketch of Dr. Bishop, '91, 302.
- † Daggett, William Gibbons [N. H.], m. '86, 21; '88, 15; '89, 21, 31, 32; '90, 12; Sketch of Dr. Gibbons, '87, 179; Typhoid fever, '89, 143; Scarlatina, '91, 231.
- * Dalton, John Call, m. '87, 21; hon. mem., '88, 25; death mentioned, '89, 23.
Dana, Charles Warren, m. '81, 239; '82, 200.
- † Daniels, William [H.], m. '40, 8.
- † Darby, Charles Sinclair [F.], m. '85, 21; '91, 338.
- † Darby, Charles Sinclair, Jr. [F.], 1891; Stamford; M.D., Univ. N. Y., 1890.
- † Darken, Edward John [N. H.], m. '35, 8; M.D., Yale, 1832; died 1852.
- † Darling, Asael Ebenezer [W.], m. '74, ii. 55; '75, ii. 78; '81, 9; '82, 9.
- † Darling, Joseph [N. H.], m. *Re.* 12; '35, 15; died 1850.
- † Darling, Samuel [N. H.], m. *Re.* 5, 12; '35, 15; '51, 57; '73, 192; dismissed 1811.
- Dart, Ashbel, m. *Re.* 196; M.D., Yale, 1818; died 1844.
- † Dart, Frederic Howard [N. L.], m. '87, 26.
- † Dart, Joseph Warren [N. L.], m. '86, 21.
- † David, Adélard David [W.], m. '90, 32.
- † David, Samuel [W.], '87, 199.
- † Davis, Charles Henry Stanley [N. H.], m. '70, ii. 92.
- † Davis, Emory Hawkins [W.], m. '74, ii. 54; '77, 9; '88, 18; '89, 8; '90, 26; '91, 8.
- † Davis, Edwin Taylor [T.], m. '90, 32.
- † Davis, Gustavus Pierrepont [H.], m. '71, ii. 123; '77, 21; '87, 11, 12, 15, 29; '79, 10, 11, 22; '80, 22; '90, 25; '91, 8, 15, 21, 22, 37.
- † Davis, Henry [N. H.], m. '55, 25; '64, ii. 2; '66, ii. 78, 79; '82, 8, 14.

- Davis, John, m. '51, 10.
- † Davis, Warren Russell [N. L.], m. '91, 31.
- † Davis, Thomas [F.], m. *Re.* 15; '35, 16; Sketch of, '53, 54.
- † Davison, Henry Harris [F.], m. '73, ii. 41.
- † Davison, Luther Augustus [H.], m. '83, 35.
- † Day, Loren True [N. H. and F.], m. '80, 194; '81, 239; '82, 26; '88, 8, 15, 17; '89, 8.
- Day, Jeremiah, Observations upon the case of, '68, 145.
- † Deacon, John [N. H.], m. '49, 14; Biog. sketch of, '78, 206.
- † Dean, Benjamin Douglas [N. L.], m. '49, 14; '56, 3; '57, 3; Dissertation, '57, 39; Vote of thanks, '57, 8; moved to San Francisco, Cal.; died Oct. 6, 1883.
- † Dean, Henry Spalding [T.], m. '55, 3; '57, 4; '75, ii. 78; '80, 9; '85, 23; '91, 21; Sketch of Dr. Dimock, '75, 435; Essay, '86, 130.
- † Dean, Horace Camillus [H.], m. '87, 26; removed to Scranton, Pa.
- Dean, Samuel, m. *Re.* 196.
- Dean, Wallace Harlow, m. '76, 11; '77, 179.
- † De Bowes, Thomas Nagele [N. H.], m. '63, ii. 97; moved to Brooklyn, N. Y.
- De Camp, Samuel Grandon Johnston; hon. deg. M.D., '36, 5.
- De Forest, Daniel Armstrong, m. '58, 53.
- De Forest, David William, m. '82, 149.
- † De Forest, Henry Alfred [H.], m. '36, 8; died 1858.
- † De Forest, John [L.], m. *Re.* 290.
- † De Forest, Louis Shepard [N. H.], m. '86, 21; '90, 25; Rheumatism, '91, 203; Sketch of Dr. Talcott, '91, 300; of Dr. Thacher, '91, 314.
- De Forest, Marcus, Jr., m. '47, 5.
- † DeForest, William Abernethy [F.], m. '83, 35.
- † DeForest, William Brintnal [L. and N. H.], m. '39, 10; '45, 5; '60, 16; '66, ii. 77; '71, ii. 109, 110, 111, 112, 117; '72, ii. 6, 8; Sketch of Dr. Sumner, '78, 203, of Dr. Gallagher, '78, 204, of Dr. Wixon, '78, 205, of Dr. Driggs, '78, 207; other sketches, '79, 162, 163, 166; Biog. sketch of, '88, 213.
- * Delafield, Edward, of New York, m. *Re.* 277; hon. mem., *Re.* 268; died Feb. 13, 1875.
- * Delamater, John, of Albany, hon. mem., *Re.* 268.

- † Delamater, Stephen T. [F.], m. '82, 26; '83, 5.
- † Delesdernier, Horace William [N. H.], m. '91, 31. *Dislo-*
dernier in the Proceedings.
- † Deming, Ralph [L.], m. '31, 8; '32, 7; '50, 3; '57, 4; '62, ii.
52, 54, 55; '63, ii. 82; '67, ii. 110, 112; 113; hon. deg.
M.D., '57, 8; Report of a case, '62, 215; Biog. sketch
of, '78, 215.
- † Deming, William [L. and H.], m. '56, 23; '57, 4; '73, ii. 26;
'77, 8, 14, 21; '78, 10, 15, 21; '79, 10, 11, 13; '80, 9, 15;
'81, 7, 18; '82, 27; '85, 9, 11; '86, 9, 13, 18; '87, 20;
'88, 18; '89, 9, 14; '90, 9, 12; '91, 9, 22; Tuberculosis,
'77, 97; Icterus, '80, 57; Reports, '81, 24, 32; Vice-Pres't,
'80, 21; Pres't, '81, 15; Address to Fellows, '81, 9;
'82, 9; Address to Convention, '82, 35.
- † Deming, William Champion [L.], m. '85, 21.
DeMolina, Z. Rojas, m. '66, ii. 102.
- † Denison, Charles [H.], m. '71, ii. 131.
- † Denison, Jeremiah Townsend [N. H. and F.], m. *Re.* 288;
'30, 9; '33, 7; '37, 3; '38, 3; '39, 3; '40, 3; '42, 3.
- † Denny, James Henry [H.], m. '73, ii. 30; nom. physician to
Retreat, '73, ii. 45; resides in Boston, Mass.
- † Derrickson, John Bright [L.], m. '56, 18; '65, ii. 36; '70, ii. 78;
'73, ii. 26; '81, 9; '82, 23; '86, 7; '87, 19.
- * Dewees, William Potts, m. *Re.* 277; hon. mem., *Re.* 268; died
May 18, 1841.
- † DeWolf, Andrew [L.], m. *Re.* 290.
- † DeWolfe, Daniel Charles [F.], m. '88, 27.
- † Dibble, Frederick Levi [N. H.], m. '60, 16; '63, ii. 120;
'77, 14; '83, 29; '86, 19; Hygienic teaching of the late
war, '67, 300; Hydrophobia, '69, 251.
- Dibble, Henry Eugene, m. '44, 21.
- † Dickinson, Gideon A. [M.], m. *Re.* 213; Saybrook.
- † Dickinson, Francis Lemuel [T.], m. '39, 10; '45, 5; '48, 3;
'53, 3, 8; '56, 3; '60, 6, 7, 8; '61, ii. 24, 25, 27; '62, ii.
56; '63, ii. 83, 84; '70, ii. 83; '74, ii. 49, 50, 51, 54;
'75, ii. 81; '78, 10; '84, 3, 5, 10, 11; '85, 14, 17; '86, 7;
'87, 7, 13; '88, 9, 17, 19; '90, 9, 20, 29.
- † Dickinson, John [M.], m. *Re.* 14; '35, 16; '51, 49; mem. com.
for examining surgeons in Revolutionary war, '51, 49.

- † Dickinson, Levi [M.], m. *Re.* 214; M.D., Yale, 1821; died 1828.
- * Dickson, Samuel Henry, m. '35, 5; hon. mem., '34, 6; died March 31, 1872.
- † Dimock, Daniel Wright [H.], m. '71, ii. 131; M.D., Dartmouth, 1867.
- † Dimock, Timothy [T.], m. *Re.* 291; '30, 3; '41, 3; '50, 3, 8; '54, 3; '58, 8; Biog. sketch of, '75, 435.
- † Dixon, Lewis Edie [W.], m. '54, 17; '57, 3; '62, ii. 52; '63, ii. 124; M.D., Univ. N. Y., 1846; death mentioned, '63, ii. 100.
- Dixon, Robert, of Maine, m. '81, 21.
- † Dodge, David Stuart [F. and H.], m. *Re.* 290; '30, 10; '31, 6; '37, 3; '41, 8; '42, 3; '46, 3.
- † Dodge, James R. [L.], m. '63, 292; member of the Litchfield Co. Soc., 1813.
- † Dodge, Jonathan [N. L.], 1842, Colchester.
- † Doherty, James Joseph Stanford [N. H.], m. '77, 18.
- † Donahue, Michael Joseph [N. H.], m. '89, 26.
- † Donaldson, William Henry [F.], m. '83, 35; '87, 18; '90, 21, 24, 25; '91, 15.
- † Doolittle, George Tilton [N. H.], m. '85, 18; '87, 25; removed to Spokane, Wash.
- Doolittle, Jonathan Edwards, m. '52, 21.
- † Dougherty, Thomas Dennis [N. H.], m. '55, 18; Biog. sketch of, '79, 165.
- Doughty, John B., m. '53, 9.
- † Douglas, Archibald Thomas [N. L.], m. '50, 12; '53, 3; '56, 3, 6; '59, 5, 7, 8; '62, ii. 71; '63, ii. 121; '72, ii. 7; '83, 35; '84, 3, 4, 15, 23; '85, 22; '86, 8, 17, 18, 19; '87, 8, 21, 26; '88, 15, 18; Report, '88, 25; Capsicum, '85, 159.
- Douglass, D. DeForest, Artificial limbs, '77, 63.
- Douglass, Manning, m. '78, 16.
- † Doutteit, Henry [N. H.], m. '79, 180; '80, 194; '81, 19.
- † Dow, Charles [T.], m. '41, 13; '42, 11; see Charles *Dowse*.
- † Dow, Horatio [W. and T.], m. *Re.* 196, 239, 275, 291; '34, 3, 5, '36, 3; '40, 3; '42, 3; hon. deg. of M.D., '32, 7; death mentioned, '60, 19; Biog. sketch of, '60, 59; '70, 438.

- † Dow, James Richardson [T. and N. L.], m. '44, 17; '45, 14; *Dorr* in the Proceedings, '46, 13; M.D., Univ. N. Y., 1847.
- † Dow, Joseph Clark [T.], m. '32, 10; '35, 3; hon. deg. of M.D., '46, 8.
- † Dow, Ulysses [T.], m. *Re.* 79.
- † Dow, Virgil Maro [N. H.], m. *Re.* 207, 213, 233, 275; '30, 3; '32, 3, 7; '36, 3; '38, 3; '40, 3; *Treas.*, '41, 6; '42, 4; '43, 4; '44, 6; '45, 9; '46, 6; '47, 6; '48, 6; '49, 5; '50, 4; vote of thanks to, '51, 9; death mentioned, '52, 17.
- Dow, Virgil Maro, m. '64, ii. 26.
- † Dowling, John Francis [H.], 1891, Thompsonville; M.D., L. I. Coll. Hosp., 1890.
- † Down, Edwin Augustus [M. and H.], m. '88, 27; '91, 327; *Water gas*, '89, 155; vote of thanks to, '89, 31.
- † Downer, Avery [N. L.], m. *Re.* 13, 83, 87, 95, 101, 107, 111, 117, 119, 123, 137, 147, 153, 159, 165, 171, 177, 183, 189, 195, 223, 233; '30, 3; '32, 7; '37, 3; '40, 3; '43, 3; '45, 5; '46, 3; '49, 3; hon. deg. of M.D., *Re.* 202; death mentioned, '55, 21.
- † Downer, George [N. L.], m. *Re.* 207, 213.
- † Downer, Joshua [N. L.], memorialist of 1765 to General Assembly of Colony of Conn., *Re.* iv.; Corporator Conn. Med. Soc., *Re.* vi.; m. *Re.* 3, 15; '35, 15; Sketch of, '51, 52.
- † Downes, Charles Manville [N. H.], m. '84, 192; '86, 21.
- † Downes, John Kenney [N. H.], m. '54, 16, 23; death mentioned, '58, 19.
- † Downing, Eleazer Butler [N. L.], m. *Re.* 275, 289; '32, 7; '34, 3; '36, 3; '38, 3; '42, 3; '47, 3; '50, 3; '61, ii. 23, 25; hon. deg. of M. D., '32, 5; *Biog. sketch of*, '71, 500.
- † Downs, Frederick Bradley [F.], m. '79, 27; '89, 8, 15; *Sketch of Dr. Cummings*, '91, 309.
- † Downs, Myron [L.], m. '31, 8; '38, 3; '40, 3; '43, 3; '46, 3; '49, 3; '56, 3; *Biog. sketch of*, '88, 217.
- † Dowse, Charles [T.], m. '43, 12; '44, 17; *Charles Dow* in '41 and '42, q. v.
- * Drake, Daniel, hon. mem., *Re.* 277; died Nov. 6, 1852.

- Drew, Francis Henry, m. '75, ii. 80; '76, 154.
- † Driggs, Asa Johnson [N. H.], m. *Re.* 289; '61, ii. 24; Biog. sketch of, '78, 207.
- † Du Bois, Cornelius Jay [N. H.], m. '67, ii. 132; '71, ii. 124.
- † Du Bois, Henry Augustus [N. H.], m. '65, ii. 50; died January 13, 1884.
- † Ducachet, Henry William [N. H.], 1846, New Haven; M.D., Coll. P. & S., N. Y., 1817; died in Philadelphia, 1865.
- Dudley, Frederick Augustus, m. '63, ii. 105, 122.
- † Dudley, William Henry [N. L.], m. '82, 26; Report, '83, 69; '84, 41.
- † Dunbar, Edward Morris [H.], m. '69, ii. 51; Biog. sketch of, '76, 144.
- Dunglison, Robley, m. '75, ii. 152.
- † Dunham, Martin Van Buren [F.], m. '78, 22; '81, 9, 16; '88, 18; '91, 7, 123.
- † Dunn, Martha M. [N. H.], m. '86, 21; '87, 197.
- † Dunne, Henry Russell [N. H.], m. '89, 26.
- † Durfee, Henry [W.], m. '30, 10.
- † Durfee, Joseph [N. L.], m. *Re.* 289; '38, 3; '40, 3; '44, 5; '52, 3; death mentioned, '64, ii. 20.
- Durrie, George Boice, m. '66, ii. 101.
- † Dutton, Charles Henry [N. L.], m. *Re.* 290; '30, 10.
- Dutton, Hosea, m. '82, 162.
- † Dutton, Thomas Albert [F. and N. H.], m. *Re.* 289; '47, 11; '49, 14; Biog. sketch of, '82, 162.
- † Dwight, Edward Strong [N. H.], m. '70, 178; '79, 26.
- Dwight, Kimball Ernest; see Ernest Dwight *Kimball*.
- † Dwight, Nathaniel [H. and N. L.], m. *Re.* 17, 57, 72, 172.
- † Dwyer, John [H.], m. '75, ii. 83.
- Dyer, Charles E., m. '52, 6; '53, 9.
- † Dyer, Elijah [N. L.], m. '32, 9; '42, 3; '44, 5; '51, 3; '53, 3; '62, ii. 51; Biog. sketch of, '82, 168.
- † Dyer, George [F.], m. *Re.* 290; '33, 10; '36, 3; '43, 3; '47, 3; '51, 8; '53, 3; '57, 3; '61, ii. 23; Biog. sketch of, '78, 214.
- * EARLE, Pliny, m. '81, 17, 22, 39; hon. mem., '82, 16; died May 17, 1892.
- † Eastman, Josiah Rogers [L.], m. *Re.* 16; '31, 8; '88, 217.

- † Easton, Morton William [H.], m. '68, ii. 16; M.D., P. & S., N. Y., 1867; removed to Philadelphia.
- † Eaton, William Pierce [N. L.], m. *Re.* 213, 233, 239, 245, 253, 289; M.D., Yale, 1819; died 1867.
- † Eberg, Arnold [H.], m. '83, 35.
Echeverria, Manuel Gonzalez, essay upon treatment of paralysis, '68, 132.
- Eddy, Henry, m. '50, 7; '51, 23; died 1872.
- Eddy, Merritt Henry, of Vermont, m. '74, ii. 56.
- Eden, John Herman, m. '74, ii. 66.
- † Edgerton, Francis Daniels [M.], m. '63, ii. 124; '71, ii. 110, 114; '72, ii. 1, 6; '76, 6, 7, 15; '77, 8, 13, 14; '78, 12, 15; '79, 9; '84, 5, 11, 12, 15; '88, 9, 17, 18; '89, 20; '90, 7, 11, 25; '91, 21, 42; Reports, '77, 100; '90, 269; Treas'r, '76, 8; '77, 13; '78, 15; '79, 20; '80, 21; '81, 15; vote of thanks to, '82, 16; Sketch of Dr. Shew, '86, 182; of Dr. Nye, '89, 245; of Dr. Hammond, '89, 255.
- † Edgerton, Francis Griswold [N. L. and M.], m. *Re.* 246, 290; Biog. sketch of, '71, 488.
- † Edson, Wyllis [F.], m. *Re.* 15, 155; name also appears as *William*.
- † Edwards, George Wilkinson [H.], m. '83, 35; Biog. sketch of, '85, 212.
- † Eggleston, Jeremiah Dewey [N. H.], m. '81, 19; '91, 8, 15.
- * Eldredge, Charles, hon. mem., *Re.* 261; hon. deg. of M.D., '35, 3; died 1838.
- † Eliot, Aaron [M.], m. *Re.* 14; '35, 16; Killingworth; rem. to Mass. 1810.
- † Eliot, Gustavus [N. H.], m. '82, 26; '87, 8; '89, 21, 31, 32; '90, 8, 13, 25, 26, 45; '91, 8, 15, 22; Sketch of Dr. Jewett, '87, 173; of Dr. Stoddard, '88, 212; Insanity, '86, 103; Pepsin, '90, 96; Sciatica, '91, 75.
- Elliott, Jared, Colonial physician; Sketch of, '51, 38; '77, 137.
- Elliott, Joseph Bailey, m. '45, 9; '53, 23.
- † Elliott, William [M.], m. *Re.* 14; '35, 16.
- † Ellis, Benjamin [N. L.], m. *Re.* 16; Sketch of, '62, 179.
- † Ellis, Richard [F.], m. '90, 32.
- † Ellis, Richard [H.], m. *Re.* 289; '31, 3.
- † Ellsworth, Pinckney Webster [H.], m. '40, 8; '42, 3, 6; '51, 3, 8; '52, 21; '53, 23; '54, 23; '57, 9; '65, ii. 35, 37, 39,

- 40; '66, ii. 77, 79; '70, ii. 81; Prize essay, '45, 9; Ovarian tumor, '66, 224.
- † Ellwood, David Marvin [N. H.], m. '66, ii. 102; '70, ii. 92.
- † Elton, John [L.], m. *Re.* 14; '35, 16.
- † Elton, William [H.], m. '41, 10.
- Ely, David, m. *Re.* 161.
- † Ely, Edwin Dwight [T. and L.], m. *Re.* 291; Hebron, 1827 to 1830; removed to Canaan, m. '31, 8; M.D., Yale, 1826; died 1831.
- † Ely, Elisha [M.], m. *Re.* 14; '35, 16; Biog. sketch of, '77, 151.
- † Ely, John [M.], m. *Re.* 3, 14, 33; '35, 15; Biog. sketch of, '77, 148.
- Ely, Josiah Griffin, m. '54, 23.
- † Ely, Richard [M.], m. *Re.* 14, 43, 71, 72, 83, 84, 87, 95, 97, 112, 117, 124, 147; Sec'y *pro tem.*, *Re.* 91; Biog. sketch of, '77, 150.
- † Ely, Richard, Jr. [M.], m. *Re.* 153, 159, 165, 171; hon. deg. of M.D., *Re.* 185; Treas'r, *Re.* 177, 183, 189.
- Ely, Samuel, Colonial physician, m. '51, 47.
- † Ely, William Watson [F.], m. '34, 8; M.D., Yale, 1834; died 1879.
- † Emery, Alfred Eastman [F.], m. '67, ii. 126; moved to Penacook, N. H.
- † Emery, William Henry [W.], m. '72, ii. 18; M.D., Harvard; 1870.
- *Emmett, Thomas Addis, m. '83, 18; hon. mem., '84, 17; resides in New York.
- † Ensign, Charles Wellesly [H.], m. '46, 12; '53, 3; M.D., Univ. N. Y., 1844.
- † Ensign, Robert Eleazer [H. and L.], m. '63, ii. 120; '75, ii. 83; '77, 9, 15; '78, 11, 12; '91, 8.
- † Ensworth, Azal [W.], m. *Re.* 13; '35, 16.
- † Erving, Joel Fuller [H.], m. '39, 10; '42, 8; '51, 3; M.D., Yale, 1842.
- † Erwin, Erastus [F.] m. '35, 5; '49, 15; see Erastus Irwin.
- † Erwin, William [L. and F.], m. '31, 8; '41, 12.
- † Essroger, Philip [N. H.], m. '69, ii. 52; M.D., Prague, Austria, 1861.
- † Esterly, Frank Powell [L. and N. H.], m. '75, ii. 83; '79, 27; '82, 187.

- Eustis, William, of Boston; hon. deg. of M.D., *Re.* 114.
- Evans, Richard Pierce, m. '50, 23.
- † Everest, Solomon [H.], m. *Re.* 12, 33, 43, 83, 87, 91, 95, 183, 189, 195, 201, 207, 223; hon. deg. of M.D., *Re.* 185; died 1822.
- † Everett, Elmore [L.], m. *Re.* 179; '37, 11.
- Everett, John, m. *Re.* 202.
- † Everett, Josiah [L.], m. *Re.* 14; '35, 16.
- † Everett, Russell [L.], m. '36, 10.
- Exton, James Anderson, of N. J., m. '89, 28; '91, 34, 35.
- † FAIRBANKS, James Root [N. L.], m. '67, ii. 125; moved to Amsterdam, N. Y.
- † Fairbanks, William [N. L.], 1891, Norwich; M.D., Bellevue, 1891.
- Fancher, Sylvanus, m. *Re.* 167.
- † Farnam, George Bronson [N. H.], m. '70, ii. 95; '73, ii. 28, 30; '74, ii. 51, 52; '75, ii. 80, 85, 99; Biog. sketch of, '87, 176.
- † Farnham, Bela [M. and N. H.], m. *Re.* 14, 159, 183, 201, 275; '57, 21; Biog. sketch of, '59, 91.
- Farnham, Charles C., m. '77, 179.
- † Farnsworth, Ralph [N. L.], m. '30, 9; '38, 3; Sec'y, '43, 4.
- † Fellows, Ephraim [N. L.], m. '31, 7; '35, 3; died 1852.
- Fenn, Aaron, m. '36, 5.
- † Fenn, Ava Hamlin [N. H.], m. '88, 27.
- Fenner, Christopher Smith, m. '44, 21.
- † Ferguson, George Dean [L.], m. '80, 24; '89, 27; '90, 9; '91, 9.
- † Ferguson, Merritt Sidney [N. L.], 1891; M.D., Univ. Vt., 1875.
- † Ferris, Anna Jackson [N. H.], m. '79, 26.
- † Ferry, Gales [N. L.], m. '65, ii. 50.
- † Field, Albert [M.], m. '73, ii. 30; '81, 9.
- † Field, Edward [N. H.], m. *Re.* 79, 207, 233; Biog. sketch of, '59, 99.
- † Field, Junius Leavenworth [N. H.], m. ('32, 8, *Lucius* L. in Proceedings) '33, 8; M.D., Yale, 1831; died 1867.
- † Field, Samuel [M.], m. *Re.* 14; '35, 16.

- † Field, Simeon [T. and H.], m. *Re.* 15, 53, 57, 62, 71, 72, 117, 123, 129, 133, 147, 153, 159, 165, 183, 189, 195; hon. deg. of M.D., *Re.* 196; died 1822.
- † Fields, Edward [H.], m. '33, 8; '41, 10; '42, 8; M.D., Yale, 1829; died 1867.
- † Fields, William [H.], m. '43, 9; '45, 12.
- † Finch, George Terwilliger [H.], m. '81, 19; '89, 8.
- *Finnell, Thomas Constantine, of N. Y., m. '63, ii. 81, 88; hon. mem., '64, ii. 7; Biog. sketch of, '90, 276.
- † Fish, Eliakim [H.], Corporator of the Conn. Med. Soc., *Re.* vi.; m. *Re.* 3, 4, 9, 10, 12, 21, 27, 33, 34, 39, 43, 45, 50, 53, 61, 67, 95, 101; '35, 15; hon. deg. of M.D., *Re.* 97; died 1804.
- † Fish, Henry [L.], m. *Re.* 290; '31, 8; hon. deg. of M.D., *Re.* 260.
- Fisher, George Jackson, of N. Y., m. '66, ii. 78.
- † Fisher, Nathaniel Augustus [N. L.], m. '63, ii. 122; moved to Providence, R. I.; died May 19, 1883.
- † Fisher, William Edwin [M.], m. '78, 23; '86, 9.
- Fisk, John, Colonial physician, m. '51, 34.
- Fisk, Marcus Brutus, m. '63, ii. 106.
- † Fisk, Marcus Lyon [H.], m. '46, 12; '56, 3; '83, 34; Sketch of Dr. Olmstead, '65, 156; Biog. sketch of, '83, 171.
- Fisk, Rev. Phineas, Colonial physician; Sketch of, '51, 39; '77, 139.
- Fiske, George Foster, m. '84, 192.
- † Fiske, Isaac Parsons [H.], m. '78, 22.
- † Fitch, Asahel [F.], m. *Re.* 15; regimental surgeon in Revolutionary war, '51, 49; Biog. sketch of, '53, 53.
- † Fitch, Charles Wellington [F.], m. '73, ii. 29; '75, ii. 98; '90, 32; resigned membership, '91, 20.
- † Fitch, Clarence Lovell [N. H.], m. '84, 19.
- † Fitch, Frederick James [N. H.], m. '66, ii. 91; '69, ii. 37; '73, ii. 26; '82, 25; Biog. sketch of, '81, 213.
- † Fitch, Henry Lewis [N. H.], m. '56, 23; death mentioned, '59, 19.
- † Flagg, Samuel [H.], Corporator of the Conn. Med. Soc., *Re.* vi.; m. *Re.* 3, 9, 12, 21, 27, 43, 53, 57, 61, 95; '35, 15.
- † Flagg, Samuel, Jr. [H.], m. *Re.* 12, 67; '35, 15; East Hartford.

- † Fleischner, Henry [N. H.], m. '78, 22; '80, 8; '84, 4; '87, 29; '88, 7; '89, 20; '90, 8, 25, 26, 28, 29, 33; '91, 21, 33, 36; Reports, '85, 80; '90, 269; vote of thanks, '81, 22; Therapeutics, '81, 143.
- Flint, Austin, of N. Y., m. '85, 18.
- † Flint, Eli Percival [T.], m. '78, 16; '79, 180; '80, 24; '81, 9, 13; '83, 5; '85, 9; '89, 9, 21; Reports, '84, 35; '85, 92.
- † Follansbee, Willard Francis [F.], m. '90, 32.
- † Foot, Anson [N. H.], m. *Re.* 18, 165, 171, 177, 183, 189.
- † Foot, Chauncey Bishop [N. H.], m. *Re.* 289; '30, 9; '41, 11; died March 6, 1873.
- † Foot, John Alfred [N. H.], m. *Re.* 16.
- † Foot, Joseph [N. H.], m. *Re.* 12, 101, 102, 111, 117, 119, 123, 133, 137, 143, 147, 153, 159, 165, 171, 201, 207, 229, 239, 299; Sec'y, *Re.* 177, 183, 189, 195; hon. deg. of M.D., *Re.* 185.
- Foot, Lyman, m. *Re.* 185; M.D., Yale, 1816; died 1846.
- † Foot, Malachi [N. H.], m. *Re.* 16.
- † Foote, Charles Jenkins [N. H.], m. '89, 26.
- Foote, Henry Hawley, m. '48, 6; '49, 8; '50, 23.
- † Foote, Nathaniel [N. L.], m. '54, 16.
- Foote, Richard, m. '55, 9; '56, 23.
- † Foote, William S. [N. H.], m. *Re.* 289; Durham.
- † Forbes, Robert Wasson [N. H.], m. '47, 10; M.D., Yale, 1845.
- † Ford, John Deming [N. L.], m. '45, 13; '47, 3; '54, 3, 4; '55, 3; M.D., Jeff., 1844; died 1867.
- † Ford, Seth Porter [L.], m. '46, 10; member Litchfield Co. Soc., 1848.
- † Ford, William J. [L.], m. '85, 9, 21; '87, 15; '88, 17; '89, 8, 29; '90, 41; Report, '89, 82; Essay, '90, 90.
- Forgue, Francis, Colonial physician; Sketch of, '53, 29.
- Foster, Frank Pierce, of N. Y.; m. '79, 28; vote of thanks to, '79, 28.
- † Foster, John Pierrepont Codrington [N. H.], m. '76, 12, 152; '79, 29; '80, 26; '81, 16; '83, 28; '91, 27; Syphilis, '80, 103; vote of thanks to, '80, 26.
- † Foster, Warren Wooden [W.], m. '83, 35; '84, 4, 15; '86, 8.
- † Fowler, Benjamin Maltby [M.], m. '44, 11; '49, 3; '56, 3.
- Fowler, Frank Hamilton, m. '69, ii. 57.
- Fowler, George, m. *Re.* 246.

- † Fowler, Remus Marcus [L.], m. *Re.* 285. 290; '31, 4. 8; '34, 3; '36, 3; '39, 3; '40, 3; '42, 3; '45, 5; '49, 3; '52, 3; '55, 3, 6; '58, 6; '62, ii. 52; '72, ii. 2; '73, ii. 29; '74, ii. 50, 56; hon. deg. of M.D., '34, 6; Biog. sketch of, '79, 170.
- † Fowler, Warren R(oyal) [L.], m. *Re.* 137, 143. 147, 153, 159, 171, 177, 183, 189, 195, 201, 207, 213, 223, 233, 239, 253, 259; hon. deg. of M.D., *Re.* 202; vote of thanks to, *Re.* 202.
- † Fox, Charles Anson [H.], m. '83, 35, 186.
- † Fox, Charles James [W.], m. '78, 11, 22; '79, 10, 11, 13, 16, 21, 29; '81, 9, 16; '83, 29; '84, 4, 9, 11, 23; '85, 14, 17; '86, 8, 19; '87, 7, 20; '88, 17; '89, 20, 31; '90, 8, 20, 25; '91, 18; Reports, '82, 74; '83, 78, 79; '84, 47; '86, 190; Ergot, '78, 163; Essay, '80, 158.
- † Fox, Edward Gager [H.], m. '85, 20; '88, 18; '89, 8.
- † Fox, Roswell [H.], m. '52, 13 (A. S. Fox in the Proceedings); '57, 3; '66, ii. 105; '83, 35; honorably dismissed. '67, ii. 112.
- † Francis, David P. [N. L.], m. '48, 12; '54, 3, 4; '63, ii. 81, 86, 87; expelled, '73, ii. 27.
- Francis, Thomas S., m. *Re.* 208; Hartford County.
- † Franklin, Spencer [F.], m. '90, 32.
- † Franklin, Thomas Morris [F.], m. '90, 32.
- Freeman, George, m. '44, 11.
- Freeman, John, m. '38, 5.
- Freeman, Nathaniel Marston, m. '51, 10; '52, 21.
- † Freeman, Orrin Barnabas [L. and H.], m. *Re.* 289; '41, 12; '51, 15.
- † French, Andrew [N. H.], m. *Re.* 245; '35, 3; hon. deg. of M.D., '31, 5; death mentioned, '52, 17.
- † French, Charles Henry [N. H.], m. '83, 35.
- † French, Eugene Cowles [L.], m. '84, 19.
- † French, John Marshall [H.], m. '82, 26; moved to Milford, Mass.
- French, Joseph Shelton, m. '56, 23; died 1890.
- French, Nathaniel Wells, m. '62, ii. 71.
- † French, William Freeman [F.], m. '87, 26.
- † French, William Henry [N. H.], m. '76, 12, 150 (F. W. French in the Proceedings).
- † Frisselle, Marcellus M. [T.], m. '53, 18.

- † Froelich, Charles Edward [H.], m. '75, ii. 83.
- † Frost, Charles Warren Selah [N. H.], m. '81, 19.
- * Frost, George, hon. mem., '40, 5; died July 28, 1846.
- * Fuller, Andrew Jacob, m. '64, ii. 1; '66, ii. 78; hon. mem., '63, ii. 88; resides in Bath, Me.
- † Fuller, Alonzo [N. L.], m. '40, 6; '55, 3; '57, 3; M.D., Yale, 1842; died 1886.
- Fuller, Anson, m. '36, 5.
- Fuller, Asa Witter, m. '36, 5; M.D., Yale, 1839; died 1877.
- † Fuller, Charles Huntington [W.], m. '36, 5; '48, 13; '51, 17; '49, 3, 15; died 1854.
- † Fuller, Daniel [H.], m. *Re.* 289; '31, 3; '36, 3; hon. deg. of M.D., '31, 5; died 1843.
- Fuller, Gilbert, m. '41, 7.
- † Fuller, Horace Smith [H.], m. '66, ii. 90; '72, ii. 2; '73, ii. 25, 27; '75, ii. 82, 98; '80, 8, 14, 15, 21, 22; '81, 8, 13; '82, 22; '83, 4; '87, 20; '90, 7, 12, 24; '91, 8, 38; Reports, '83, 56; '90, 21.
- † Fuller, James Robert [N. L.], '86, 21; '89, 8; moved to Boston, Mass.
- Fuller, Jared, m. *Re.* 260; M.D., Yale, 1828; died, 1829.
- † Fuller, John Paine [N. L.], m. '40, 9; '46, 3.
- Fuller, Jonathan, Colonial physician, '70, 433.
- † Fuller, Josiah [W.], m. *Re.* 83, 87, 95, 101, 102, 112, 119, 137, 143, 147, 165, 171, 177, 183, 223, 239, 245, 267; '30, 5; hon. deg. of M.D., *Re.* 241; died 1841.
- † Fuller, Oliver [L.], m. *Re.* 14; '35, 16; died 1817.
- † Fuller, Samuel Brown [H.], m. '41, 7; '46, 3, 12; died 1847.
- † Fuller, Silas [W. and T. and H.], m. *Re.* 203, 207, 245, 259, 267, 268, 275, 285; '30, 4; '32, 3; '33, 7; '43, 3, 7; '44, 8; hon. deg. of M.D., *Re.* 241; Vice-Prest., '34, 3; '35, 3; '36, 3; Prest., '37, 3; '38, 3; '39, 3; '40, 3; Valedictory address, '41, 4; Biog. sketch of, '70, 444.
- † Fuller, Stephen [M.], m. '45, 16; '54, 18; Stephen A. in the the Proceedings.
- Fuller, Stephen Edward, m. '56, 9; '58, 15; M.D., Coll. P. & S., N. Y., 1858.
- † Fuller, Stephen Henry [H.], m. '56, 15; '57, 17; '58, 15; moved to Pleasant Lake, Ind.

† Fuller, Warren Austin [T.], m. *Re.* 246, 291; '31, 3; '34, 3; M.D., Yale, 1826; died 1843.

† Ferguson, George Dean [L.], m. '89, 27; '90, 9; '91, 9.

GALE, Benjamin, m. *Re.* '73, 196, 197, 200; member of committee for examining surgeons in Revolutionary war, '51, 49; earliest medical writer in Conn., '59, 29; died May 21, 1790.

† Gallagher, Charles A [N. H.], m. '63, ii. 120; '68, ii. 15; Biog. sketch of, '78, 204.

† Gallagher, Frank [N. H.], m. '65, ii. 57; '68, ii. 15.

Gallaudet, Rev. Thomas Hopkins, communication containing inquiries and suggestions respecting deaf and dumb persons in the State, '50, 5.

† Gardiner, Charles [W.], m. '80, 24; '83, 5, 11.

Gardner, Edwin Latham, m. '62, ii. 71.

† Garlick, Samuel Middleton [F.], m. '80, 24; '89, 21; '90, 41; '91, 40.

Garrish, John Pool, m. '70, ii. 78.

Gary, George, m. *Re.* 234.

† Gates, Howard Eugene [L.], m. '70, ii. 94; '71, ii. 114; '72, ii. 2, 4; '76, 9; '77, 9; '82, 22; moved to Colorado Springs, Col.

† Gay, Allen Edmond [W.], m. '71, ii. 135.

† Gay, Jedediah Randall [N. L.], m. '40, 9; expelled, '54, 9.

† Gay, Thomas W. [N. L.], m. '39, 13; died 1843.

† Gaylord, Charles Hyde [N. H.], m. '71, ii. 124, 127; '75, ii. 78, 85; '77, 9.

† Gaylord, Charles Woodward [N. H.], m. '73, ii. 30, 44; '78, 14; '80, 16.

† Gaylord, Edward Everett [W.], m. '77, 17; '78, 227; '79, 179; '85, 21; '88, 9, 29.

Gaylord, John Flavel, m. '78, 227; '79, 179.

† Gaylord, Moses [N. H.], m. *Re.* 13; '35, 16.

† Gaynor, Louis Joseph [N. H.], 1891, M.D., Univ. N. Y.; 1891.

† Geib, Henry Philip [F.], m. '79, 27; '83, 29; '86, 7, 23; '87, 21; '88, 18; Sketch of Dr. Haight, '82, 169.

† Gibbons, Thomas Pym [N. H.], m. '77, 18; Biog. sketch of, '87, 179.

- † Gibbs (David) [N. H.], m. '35, 9.
- † Gibson, Robert Jackson [N. H.], m. '78, 16; '79, 26, 180.
Gifford, Edward G.; see Edward G. *Ufford*.
- Gihon, Albert Leary, of U. S. N., m. '89, 18.
- † Gilbert, Charles Henry [L.], m. '81, 20; '83, 5, 34; Sketch of Dr. Miner, '83, 178; Biog. sketch of, '83, 179.
- † Gilbert, George Abner [F.], m. '84, 19.
- † Gilbert, Gershom Clark Hyde, m. '43, 6; '44, 21; '48, 3; '51, 3; '57, 4; '62, ii. 52; '66, ii. 78, 79; '75, ii. 84; '78, 10; '79, 10, 13; '84, 5; Biog. sketch of, '90, 281.
- † Gilbert, Henry [H.], m. '50, 11.
- † Gilbert, Luther Munson [N. H.], m. '67, ii. 102; '68, ii. 15.
- † Gilbert, Samuel Dutton [N. H.], m. '72, ii. 19; '73, ii. 30; '77, 9; '79, 10; '82, 8; '84, 22; '89, 81; Typhoid fever, '75, 365; Health resorts, '84, 114; Pneumonia, '86, 90; Rheumatism, '91, 195.
- Gillett, Alfred, m. *Re.* 202.
- † Gillett, Horace Cornelius [H.], m. '30, 9; '38, 3; '48, 3; '57, 3.
M.D., Yale, 1829.
- † Gillett, John A. [L.], m. '37, 11; '44, 5, 16.
- † Gillin, Charles Adelbert [H.], m. '87, 26.
- † Gilnack, Frederick [T.], m. '78, 224; '85, 9, 16; '88, 7, 9.
- Gilson, Andrew Jackson, m. '63, ii. 119.
- † Girard, Charles Herménégilde [W.], m. '91, 31.
- † Gitteau, Ephraim [L.], m. *Re.* 14; '35, 16.
- † Gladwin, Ellen F. Hammond [H.], m. '81, 232.
- † Glysson, William [W.], m. *Re.* 13; '35, 16.
- † Godfrey, Charles Cartlidge [F.], m. '84, 19; '85, 17; '87, 8, 13, 21; '91, 8, 15, 19.
- † Gold, Samuel Wadsworth [L.], m. *Re.* 245, 259, 285; '33, 7; '38, 3; '41, 3; '43, 3; '46, 3; '56, 3; '60, 6, 7, 8, 72.
Sketch of Dr. Sheldon, '70, 408; Biog. sketch of, '70, 410.
- † Goodrich, Alfred Russell [T.], m. '63, ii. 82, 85, 87; '67, ii. 110, 113; '70, ii. 78, 81; '71, ii. 116; '72, ii. 2, 3, 4, 5; '76, 5, 10; '78, 11, 12, 13; '80, 7, 23; '83, 5, 11, 16, 19; '84, 23; '86, 9, 13, 17, 18, 19, 207; '89, 9, 15, 20; '91, 7, 40, 45.
Report, '83, 27; Vice-President, '78, 15; President, '79, 20; Address to Fellows, '80, 9; Biliary calculi, '86, 171.
- † Goodrich, Horace [H.], m. '55, 17.
- † Goodrich, Otis Deming [N. H.], m. '37, 5; '39, 12; died 1850.

- † Goodrich, Roscoe Hinman [T.], m. 79, 27 (*Goodwin* in the Proceedings).
- † Goodsell, Isaac [N. H.], m. *Re.* 201, 213, 223, 245, 259, 285; '33, 7; '36, 3; '41, 3; '52, 3; '53, 3; '61, ii. 24, 25; hon. deg. of M.D., *Re.* 260; Obituary notice of, '65, ii. 53.
- † Goodsell, Penfield [L.], m. *Re.* 14; '35, 16.
- † Goodsell, Thomas [N. H.], m. *Re.* 17, 117, 119, 123, 133, 137, 143, 153, 159, 299; died 1864.
- † Goodwin, Daniel [L.], m. *Re.* 17.
- † Goodwin, Ralph Schuyler [L.], m. '74, ii. 50, 51; '75, ii. 81; '76, ii. 6, 7, 9; '78, 16; '80, 8, 21; '81, 9, 12, 13, 18; '82, 7, 9, 13, 21, 24; '83, 9, 13, 21, 24; '84, 5; '85, 9, 14, 17; '87, 9, 19; '88, 18; '89, 21, 31; '90, 18, 26; '91, 9, 21, 28; Alcohol, '79, 145.
- † Goodyear, Robert Beardsley [N. H.], m. '65, ii. 39; '68, ii. 24; '74, ii. 54; '81, 8; '84, 3; '87, 8; Sketch of Dr. Stillman, '80, 166.
- † Gordon, Daniel [W.], m. *Re.* 13; '35, 16.
- † Gordon, Edward Everett [L.], m. '42, 10; M.D., Yale, 1842; died 1851.
- † Gorham, Andrew Bennett [F.], m. '78, 16; '80, 24, 193.
- † Gorham, Charles [F.], m. '34, 8; '38, 9; dismissed, '51, 6.
- † Gorham, Frank [F.], m. '75, ii. 80; '76, 154; '78, 22.
- Gorton, Owen Augustus, m. '75, ii. 80.
- † Gould, Orchard [N. H.], m. *Re.* 16, Branford.
- † Gould, William [N. H.], m. *Re.* 3, 12, 21, 33; '35, 15; '73, 193, 195.
- † Goulding, Jesse [F.], m. *Re.* 267.
- † Goulding, John [F.], m. *Re.* 290; '30, 3, 5; dismissed, '51, 6; M.D., Yale, 1824; died 1860.
- † Gourdin, Samuel [N. H.], m. '59, 16; died in the West Indies, 1862.
- † Graham, Flavel B. [L.], m. *Re.* 290; '37, 11.
- † Graham, Israel Lewis [H.], m. '51, 15; M.D., Univ. N.Y., 1847.
- † Granger, Amos [H.], m. *Re.* 12; '35, 15.
- † Grannis, John Henry [M.], m. '67, ii. 115; '69, ii. 57; '72, ii. 2, 4; '78, 11, 12, 13, 16, 168; '79, 21; '80, 27; '82, 9, 14, 22; '84, 4, 15; '85, 8, 9, 18; '86, 7, 13; '88, 9; '89, 21. Reports, '73, 188; '80, 70; '84, 33; vote of thanks to, '81, 22; Abortion, '81, 59; Sketch of Dr. Gilbert, '90, 289.

- † Grant, Henry Allen [H.], m. '44, 13; '47, 3; '50, 23.
 † Grant, John [T.], m. *Re.* 207, 213, 223, 239.
 † Grant, Miner, Corporator of the Conn. Med. Soc., *Re.* vi; m. *Re.* 15, 21, 23.
 † Graves, Charles Burr [N. L.], m. '87, 26; Diabetic coma, '90, 148.
 † Graves, Frederick Chauncey [F.], m. '91, 31.
 † Graves, Thomas [W.], m. '77, 18; '80, 9.
 † Graves, Thomas Thatcher [N. L.], m. '71, ii. 124, 132; moved to Cañon City, Col.
 † Graves, William Boardman [N. H.], m. '80, 24, 193; moved to East Orange, N. J.
 † Gray, Alvah [N. L.], m. '33, 9; died 1853.
 † Gray, George Harrison [M. and N. H.], m. '75, ii. 84, 93; '76, 150.
 † Gray, Henry [H.], m. '50, 13; '72, ii. 2; '73, ii. 25; '74, ii. 50; '90, 20.
 † Gray, John [N. L.], m. '62, ii. 57; '63, ii. 81, 87; '64, 159; '65, ii. 35, 37, 38; '69, ii. 37; hon. deg. of M.D., '68, ii. 7.
 † Gray, Jonathan [N. L.], m. *Re.* 16.
 † Gray, Roger Minot [F.], m. '63, ii. 82, 87; '67, ii. 109; '72, ii. 2; M.D., Univ. N. Y., 1856; died 1873.
 † Green, Edward A. [H.], m. '74, ii. 54; M.D., Albany, 1872.
 Green, Francis Cowles, m. '51, 23.
 Green, George Spaulding, m. '47, 5; M.D., Univ. N. Y., 1849.
 * Green, Henry, of Albany, N. Y., m. '42, 6; hon. mem., '39, 5; died May 12, 1844.
 * Green, John, m. '64, ii. 8; hon. mem., '65, ii. 43; died Oct. 17, 1865.
 † Green, Ralph Emerson [N. L.], m. '44, 15; '50, 12; '59, 16; '53, 16; Biog. sketch of, '74, 287; *Richard P.* and *Ralph P.* in the Proceedings.
 † Gregory, Elijah [F.], m. '55, 9; '56, 23; '61, ii. 23, 25; '63, ii. 123; '66, ii. 77; '69, ii. 37; '76, 6; Biog. sketch of, '78, 213.
 † Gregory, Ira [F.], m. '41, 12; '56, 3; '64, ii. 2; '68, ii. 1; '71, ii. 116; '72, ii. 1, 2, 5, 7; M.D., Yale, 1829; died 1872.
 † Gregory, James Glynn [F.], m. '70, ii. 93; '71, ii. 109, 110, 111; '75, ii. 78; '78, 11, 12; '81, 23; '83, 5, 11, 29; '85, 7; '90, 26.

- † Gregory, John Royce [F.], *m. Re.* 15 ; '35, 16.
- † Gridley, Horatio [L. and H.], *m. Re.* 239, 245, 253, 275, 285; '30, 5; '33, 7; '39, 5; Biog. sketch of, '65, 160.
- † Gridley, Horatio Wells [H.], *m.* '50, 23; '51, 15; died 1851.
- † Gridley, Ida Rachel [H.], 1891; Collinsville; M.D., Coll. P. & S., Boston, 1889.
- † Gridley, Selah [H.], *m. Re.* 17.
- † Griffin, Edward Dorr [N. L.], *m.* '79, 26; '82, 8; died May 8, 1887, æt. 47.
- † Griffin, Joel L. [N. H.], *m. Re.* 245; Guilford.
- † Griggs, Edward Luther [N. H.], *m.* '66, ii. 91; '79, 10, 11; Sketch of Dr. Deacon, '78, 206.
- † Griggs, Oliver Burnham [H. and T. and W.], *m.* '48, 11; '55, 3; '59, 6; '66, ii. 78; '70, ii. 78, 83, 84; '73, ii. 26, 27, 29; '82, 9; '86, 8, 13; Memoir of Dr. Swift, '70, 412.
- † Griggs, Stephen Chandler [W.], '50, 13; '53, 3; M.D., Univ. N. Y., 1849; moved to Brooklyn, N. Y.
- † Griswold, Edward Hammond [M. and H.], *m.* '79, 27; '90, 31; Sketch of Dr. Rockwell, '91, 307.
- † Griswold, Frederic Pratt [N. H.], *m.* '89, 26.
- † Griswold, George [H.], *m. Re.* 12, 61, 71, 95, 101, 107, 111, 137, 143, 147.
- Griswold, George Washington, *m.* '82, 149; M.D., Yale, 1830.
- † Griswold, Hamilton Byron [L.], *m.* '89, 27.
- † Griswold, Julius Egbert [H.], *m.* '80, 24.
- Griswold, Ralph B., application for membership indefinitely postponed, '85, 19.
- † Griswold, Roger Merwin [M. and N. H.], *m.* '74, ii. 53; '76, 13; '81, 8; '83, 29; '88, 28; '91, 40, 44; Report, '77, 75; Sketch of Dr. Byington, '78, 199; Essay, '87, 127; Dissertation, '88, 47; moved to West Haven, N. Haven Co.
- † Griswold, Rufus White [H.], *m.* '54, 15; '57, 3; '65, ii. 35, 38; '66, ii. 77, 79; '73, ii. 25; '76, 19, 27; '79, 9, 12; '81, 7, 16; '85, 23; '86, 18; '87, 20, 24; '90, 40; '91, 19; Sanitary report, '54, 32; Reports, '78, 88; '79, 64, 74; '80, 33; Case of fibrous tumor of ovary, '70, 391; Diphtheria, '76, 45; Sketch of Dr. Bulkley, '57, 61.
- † Griswold, Stanley [L.] *m.* '32, 10.
- † Griswold, Waite Robbins [M. and F.], *m.* '64, ii. 19; '67, ii. 126; M.D., Coll. P. & S., N. Y., 1863.

- † Griswold, William Loomis [F.], m. '88, 27.
- † Grosvenor, Robert [W.], m. *Re.* 153; death mentioned, '50, 15.
- † Grosvenor, William, of Tolland Co. [T.], m. *Re.* 4, 15, 22, 27, 28, 30, 35, 45, 53, 57; Biog. sketch of, '70, 428.
- † Grosvenor, William, of Windham Co. [W.], m. '30, 10; '33, 7; '36, 3.
- † Guernsey, Ezekiel Hollister [F.], m. *Re.* 16.
- † Guild, Frank Eugene [W.], m. '88, 27; '91, 8.
- † Gulliver, Daniel Francis [N. L.], m. '54, 16; '58, 16; M.D., Jeff., 1852.
- † HAIGHT, Nathaniel Drake [F.], m. '34, 8; '51, 3; '58, 5; '62, ii. 52; '81, 20; recommended for hon. deg. of M.D., '58, 8; again, '69, ii. 44; third time, '70, ii. 85; Biog. sketch of, '82, 169.
- † Haile, Ashbel Bradford [N. L.], m. '42, 9; '49, 3; '57, 9; '60, 5, 6, 7, 8, 11; '63, ii. 81; '64, ii. 2; '69, ii. 37; '70, ii. 77; '73, ii. 26; '74, ii. 49, 52, 54; '76, 10; '80, 14; vote of thanks to, '60, 8; Hygiene, '60, 37; Biog. sketch of, '80, 168.
- † Hale, Daniel Mason [W.], m. '46, 14; '50, 13; M.D., Harvard, 1833.
- † Hale, Joseph [H.], m. *Re.* 12; '35, 15.
Hall, Amzi, m. '73, 200 (see Amzi Hull).
Hall, Benjamin, Colonial physician, m. '51, 37.
- † Hall, Chauncey Austin [H.], m. '55, 17; (*S. C. Hall* in the Proceedings;) M.D., Univ. Pa., 1837; died 1856.
- † Hall, David Ebenezer [W.], m. *Re.* 290; '34, 3; '47, 3; '50, 3; '54, 3; M.D., Yale, 1820; died 1872.
Hall, Dixon Scipio, m. '49, 8; '50, 23.
- † Hall, Edward Dormenio [N. H.], m. '91, 21, 31.
- † Hall, Eli [H.], m. '39, 12; '41, 3; '45, 5; '49, 3; '57, 21; hon. deg. of M.D., '41, 8; Biog. sketch of, '57, 59.
Hall, Franklin Wilson, m. '76, 11; '77, 179; '78, 225, 226.
- † Hall, Henry Newbury [N. H.], m. '90, 32.
Hall, Isaac, Colonial physician, m. '53, 28.
- † Hall, Jonathan [W.], m. *Re.* 4, 13, 21, 28, 33, 34, 45, 53, 62, 71, 83, 87, 95, 101, 123.
- † Hall, Luther E. [N. H.], m. *Re.* 13; '35, 16; hon. deg. M.D., Univ. Vt., 1824.

- † Hall, Nelson Gregory [T.], m. '58, 8; '60, 71; '62, ii. 52; '65, ii. 36; Sympathetic nerve, '62, 196; Sketch of Dr. Skinner, '64, 51.
- † Hall, Newton Bushnell [N. H.], m. '63, ii. 97, 106; '65, ii. 35; Biog. sketch of, '79, 166.
- † Hall, Salmon H. [F.], m. '32, 9; '50, 13.
- † Hall, Samuel [N. H.], m. *Re.* 16.
- † Hall, Samuel H. [H.], m. '63, ii. 96; M.D., Jeff., 1857; death mentioned, '67, ii. 128.
- Hall, Storrs, m. '50, 7; '51, 24.
- † Hall, Timothy [H.], m. *Re.* 12, 61, 71, 83, 84, 87, 95, 101, 107, 111, 117, 123, 129, 133, 137, 143, 154; hon. deg. M.D., *Re.* 173; Treas'r, *Re.* 147, 153, 159, 165, 171; Vice-pres't, *Re.* 177, 183; Petechial fever, *Re.* 301.
- † Hall, William Brenton [M.], m. *Re.* 14, 34, 45, 53, 57, 61, 62, 67, 71, 72, 83, 84, 88, 91, 96, 102, 107, 133, 143, 147; Treas'r, *Re.* 87, 95, 101, 111, 117, 123, 137; Sketch of, '77, 145.
- Hall, William Brinton, m. '74, ii. 66.
- † Hall, Zolman H., m. *Re.* 246; see *Salmon H. Hall.*
- Hallam, Albert Coberg, m. '65, ii. 39; '66, ii. 101.
- † Hallock, Frank Kirkwood [M.], m. '86, 21.
- † Hallock, Winthrop Bailey [M.], m. '71, ii. 126; '80, 9; '83, 29; Treatment of the insane, '77, 121.
- † Hamilton, Asa [T.], Corporator of the Conn. Med. Soc., *Re.* vi.; m. *Re.* 4, 15, 22, 28, 35, 45; Sketch of, '70, 444.
- † Hamilton, Erasmus Erskine [T.], '45, 16.
- † Hamilton, Erskine [T.], m. '32, 11; '40, 11.
- * Hamilton, Frank Hastings, m. 80, 25; hon. men., '54, 10; died Aug. 11, 1886.
- † Hamilton, Horatio Asa [T.], m. *Re.* 291; M.D., Yale, 1821; died 1839.
- Hamilton, Joseph of Hudson, N. Y., hon. deg. of M.D., *Re.* 97.
- † Hamlin, Chester [M. and H.], m. *Re.* 234, 253; '46, 3; hon. deg. of M.D., '56, 8; Biog. sketch of, '73, 219.
- Hamlin, Leander B., m. '49, 7.
- † Hammond, Cornelius Elijah [T. and H. and M.], m. '48, 14; '51, 3; '54, 3; '59, 5, 7; '66, ii. 77, 79; '67, ii. 109, 120; '68, ii. 25; '75, ii. 78; '79, 10; '80, 8, 24; '82, 9, 13; '85,

- 9, 17; Sketch of Dr. Jarvis, '75, 430; Biog. sketch of, '89, 255.
- † Hammond, Ellen F. [H.], m. '79, 26 (Mrs. E. F. H. Gladwin).
Hammond, George Henry, m. '78, 16; '79, 180; '80, 193; died 1881.
- † Hammond, Henry Louis [W.], m. '82, 27; '85, 8, 10, 16, 17, 23; '87, 8, 13.
- † Hammond, Justin [W.], m. '30, 10; '35, 3; '39, 3; '45, 5; '51, 3, 8; '59, 6; '71, ii. 110, 114; '72, ii. 1; Biog. sketch of, '74, 273.
- † Hammond, Shubael [T.], m. *Re.* 18; Biog. sketch of, '70, 443.
Hammond, William Alexander, of N. Y., m. '79, 18, 28; vote of thanks to, '79, 28.
- † Hanchett, Thatcher Swift [L.], m. '67, ii. 127; '73, ii. 28; '77, 15; '79, 10; '88, 8.
- Hand, John, m. *Re.* 214.
- † Hanlon, Nicholas J. [N. H.], 1891, Waterbury.
- † Hardy, Jabez G. [F.], m. *Re.* 196, 233; M.D., Yale, 1818; died 1822.
- † Hardy, Stephen [N. H.], m. *Re.* 254.
- † Harriman, Patrick Henry [N. L.], m. '85, 21; '88, 8.
- † Harrington, Josiah Varnum [W.], m. '54, 11; '63, ii. 123; died in Sterling, Dec. 1, 1864.
- † Harris, Andrew [W.], m. *Re.* 18, 153, 154, 159, 165, 171, 183, 189, 201, 207, 213, 223, 253, 259, 285; '30, 4; '31, 3; '32, 3; '34, 3; '36, 4; '37, 3; hon. deg. of M.D., *Re.* 260; died 1840.
- † Harris, George Robert [N. L.], m. '91, 31.
- † Harris, George Washington [N. L.], m. '70, ii. 92; '75, ii. 84; '76, 6; '80, 8; '84, 22; '87, 8, 13; Vitality, '75, 404; Hernia, '76, 76.
- Harris, Thomas, m. *Re.* 240.
- † Harrison, Benjamin Franklin [N. H.], m. '37, 10; '69, ii. 52; '70, ii. 109, 111; '72, ii. 1, 7; '77, 9, 10, 11; '78, 29; Report, '78, 106; Biog. sketch of, '87, 165.
- † Harrison, David [M.], m. *Re.* 290; '32, 7; '54, 3; death mentioned, '57, 21.
- † Harrison, Increase [N. H.], m. *Re.* 289; '30, 9; M.D., Yale, 1823; died 1836.
- † Hart, Charles Remington [H.], m. '63, ii. 121; '66, ii. 90.

- † Hart, Erastus L. [L.], m. *Re.* 213, 223.
- † Hart, Frederick Albert [H.], m. '41, 10; '60, 5, 7; '62, ii. 51; '68, ii. 1; '69, ii. 37; Sketch of Dr. Barnes, '71, 492.
- † Hart, Henry Cyprian [H.], m. *Re.* 289; '30, 9; M.D., Yale, 1826; died 1831.
- † Hart, James E. [H.], m. *Re.* 201.
- † Hart, John [H.], m. *Re.* 12; '35, 15; original member; surgeon U. S. Navy.
- † Hart, John A. [H.], m. *Re.* 213; Wintonbury, admitted 1814.
- † Hart, Jonah [H.], m. '73, 197.
- † Hart, Josiah [H.], Corporator of Conn. Med. Soc., *Re.* vi.; m. *Re.* 3, 9, 12, 21, 27, 33, 39; '35, 15.
- † Hart, Josiah Fuller [N. H.], m. *Re.* 289.
- † Hart, Orrin [H.], m. '31, 6.
- † Hart, Samuel [H.], m. *Re.* 245; '30, 3; hon. deg. of M.D., '30, 6; died 1863.
- Hart, Samuel Waldo, hon. deg. of M.D., '55, 10; died 1891.
- Hartshorn, David, Colonial physician; Sketch of, '62, 171.
- † Hartshorn, Elijah [N. L.], m. *Re.* 16; dismissed 1802.
- † Haskell, Charles Nahum [F.], m. '91, 31.
- Hassard, Robert Gray, m. '63, ii. 105, 123.
- † Hastings, Panet Marshall [H.], m. '54, 15; '57, 5; '63, ii. 89; '64, ii. 9; '67, ii. 113; '70, ii. 83; '73, ii. 28; '74, ii. 52; '80, 22; '87, 8; '88, 8, 17, 18; '91, 46; Sec'y, '58, 6; '59, 3; '60, 6; '61, ii. 25; '62, ii. 72; Dissertation, '57, 51; Scarlatina, '64, 12; Vaccination, '73, 202; vote of thanks to, '64, 9; Sketch of Dr. Hawley, '83, 164.
- † Hastings, Seth [L.], m. *Re.* 3, 5, 9, 14, 21; '35, 15.
- Hastings, Thomas, m. '51, 38.
- † Hatch, Edward W. [N. H.], m. '50, 12; '56, 3; '57, 9.
- † Hatch, Jethro [L.], m. *Re.* 290; M.D., Yale, 1828; died 1850.
- † Hatch, Johnson C. [L.], m. *Re.* 202, 259, 275; '32, 7; '35, 3; '37, 3; '44, 5; '46, 3; '48, 3; '49, 8; '51, 3; Med. Jurisprudence, '50, 20; vote of thanks to, '50, 6; Biog. sketch of, '55, 51.
- † Hatch, Josiah [L.], m. *Re.* 14.
- Haughee, Thomas, m. '68, ii. 24.
- † Haven, William Chadbourne [T.], m. '85, 21; '86, 9.
- † Havens, Walter Louis [N. H.], m. '86, 21.

- † Hawkes, William Whitney [N. H.], m. '81, 239; '82, 26, 200; '90, 39; '91, 37, 38; Report, '91, 87; Sketch of Dr. Ayres, '87, 174; Rectum, '90, 110.
- † Hawley, Benjamin [L.], m. *Re.* 13; '35, 16.
- † Hawley, Elijah [F.], m. *Re.* 15; '35, 16.
- † Hawley, George Benjamin [H.], m. '37, 9; '42, 3; '50, 3; '59, 4, 5, 6, 7, 10, 11; '63, ii. 81; '67, ii. 112; '70, ii. 83; '73, ii. 25, 28, 29, 32; '77, 15; '80, 22; '83, 34; Diphtheria, '62, 205; Biog. sketch of, '83, 164.
- † Hawley, George Fuller [H.], m. '69, ii. 51; '78, 15.
- † Hawley, George Rufus [F.], 1892; Danbury; M.D., L. I. Coll Hosp., 1892.
- † Hawley, Roswell [H.], m. '40, 6; '45, 5; '57, 18; death mentioned, '68, ii. 19.
- † Hawley, Zerah [N. H.], m. *Re.* 289; died 1856.
- † Hayden, (Aaron) [L.], m. *Re.* 17.
- † Hayes, John Francis [N. H.], m. '88, 26.
- † Hazen, Miner Comstock [M.], m. '55, 20; '58, 5; '62, ii. 52, 54, 55; '66, ii. 78; '67, ii. 110; '71, ii. 110; '74, ii. 50, 51, 57; '78, 11, 12; '82, 8, 21; '83, 5, 16, 29, 40; '86, 9, 18, 19; '89, 9, 14, 18, 20; Sketch of Dr. Bell, '89, 264.
- † Hazen, Thomas Green [H.], m. '41, 10; '43, 9; M.D., Dartmouth, 1839; died 1875.
- † Heady, Elias Buel [L. and N. H.], m. '71, ii. 113; '72, ii. 7, 20; '79, 10; '81, 8, 19; '88, 8; '91, 330.
- † Heaney, Alfred George [L.], m. '77, 18; moved to Corpus Christi, Tex.
- † Hebron, Albert [N. L.], m. '71, ii. 132.
- Hedges, David Anson, m. '57, 25.
- Henderson, George Robinson, m. '76, 154.
- Hendrick, Eli F., m. '63, ii. 119, 122; M.D., Univ. N. Y., 1850.
- Hendrick, Stephen Orrimel, m. '71, ii. 113.
- Henrigues, John Philip, m. '77, 179; '78, 226.
- † Henry, Jesse Williams [N. H.], m. '69, ii. 52; removed to Brooklyn, N. Y.
- Henry, Morris Henry, m. '83, 41, 42; '84, 17; Varicocoele, '83, 155.
- * Hermann, Lewis, of U. S. N.; hon. men, '28, 7.
- Herrick, John Claudius, m. '63, ii. 86; '66, ii. 101.

- † Herrick, John Pierpont [N. H.], m. *Re.* 260, 289; '30, 9; died 1848.
- † Hessler, Wenderlin [N. H.], m. '54, 16; '55, 18; *Hassler* in the Proceedings.
- Hersom, Nathaniel A., of Maine, m. '77, 10, 19.
- † Hewitt, David H. [N. L.], m. *Re.* 16.
- † Hewitt, Elisha Avery [N. L.], m. '50, 12; '51, 16; M.D., Univ. N. Y., 1850.
- † Hexamer, Carl Reisig [F.], m. '90, 32.
- † Hibbard, Nathaniel [W.], m. '83, 35; '89, 80.
- † Hickok, Oliver Starr [F.], m. '60, 17; '63, ii. 82; '72, ii. 2; Biog. sketch of, '85, 217.
- † Higby, Miner [F.], m. *Re.* 15.
- † Higgins, Gordon Adolphus Judd [L.], m. '71, ii. 131; died 1873.
- † Higgins, Joseph [H.], m. *Re.* 12; '35, 15; Rocky Hill.
- † Higgins, Royal Lacey [F.], m. '68, ii. 17; '71, ii. 109.
- † Higgins, William Lincoln [T.], m. 91, 31.
- † Hill, Benjamin [M.], m. *Re.* 14; '35, 16; Biog. sketch of, '77, 151.
- † Hill, Charles Edwin [W.], m. '85, 21; '86, 7, 8, 18; '89, 8.
- † Hill, Christopher Edward [M.], m. *Re.* 254; M.D., Yale, 1827; died 1874.
- † Hill, Edwin Allen [W.], '52, 15; '57, 3; '62, ii. 52; '64, ii. 2; '69, ii. 38, 39, 44; '72, ii. 2, 3, 4; '74, ii. 50, 51; '75, ii. 78, 80; '77, 9; '83, 5, 16; '84, 15; '85, 8; '91, 7; Biog. sketch of Dr. Hammond, '74, 273.
- † Hill, John [W. and F.], m. '46, 14; '52, 3; '57, 3; '81, 20; Biog. sketch of, '81, 221.
- † Hill, Seth [F.], m. '64, ii. 6; '65, ii. 39; '66, ii. 102; '81, 20; '82, 34; '83, 29; '84, 3, 11; '87, 8; '88, 29; vote of thanks to, '89, 29; Phthisis, '89, 83; Cesarian section, '91, 133.
- Hills, Samuel Augden, m. '45, 9.
- † Hills, Thomas Morton [W.], m. '64, ii. 25; '66, ii. 78; '69, ii. 38; '71, ii. 110, 111; '73, ii. 26; '74, ii. 50, 51, 56, 57; '76, 10; '77, 15; '78, 11, 12, 15, 20; '79, 10, 21; '81, 16; '83, 5, 29; '84, 15; '85, 7; '88, 9; '91, 21; Report, '78, 161; Pres't, '86, 18; Address to Fellows, '87, 9.

- † Hillyer, Asa [H.], m. *Re.* 27; died 1840.
- † Hillyer, Horace [H.], m. *Re.* 12; '35, 15.
- † Hinckley, Scotaway [T.], m, *Re.* 166; '31, 8; death mentioned, '50, 15.
- Hine, Elmore Charles, m. '59, 8; '63, ii. 120; moved to Philadelphia.
- Hine, Robert B., m. '52, 6.
- † Hine, William Henry [F.], m. '63, ii. 86; '65, ii. 57; death mentioned, '67, ii. 128.
- † Hitchcock, Henry Lawrence [N. H.], m. *Re.* 17, 124.
- Hitchcock, William Edwin, m. 66, ii. 102.
- Hoadley, Frederick Hodges, m. '77, 178.
- † Hoadley, Jehiel [M.], m. *Re.* 14; '35, 16; died 1810.
- † Hobson, Albert [N. L.], m. '50, 12; '52, 3.
- † Holbrook, Horatio [W.], m. '35, 10.
- † Holbrook, Lowell [W.], m. '56, 17; '59, 6; '63, ii. 123; '66, ii. 78; '68, ii. 2; '70, ii. 78; '71, ii. 110, 114; '76, 5; '78, 15; '80, 9, 22; '81, 7, 9, 12, 13; '82, 22; '84, 15; '85, 8, 17; '87, 8, 19, 21; '89, 8, 14, 20; '91, 8, 15; Reports, '77, 95; '78, 158; '79, 113; '80, 54; '88, 25; Vice-Pres't, '73, ii. 28; Pres't, '74, ii. 52; Medical Science, '75, 293; vote of thanks to, '75, ii. 84.
- Holbrook, Luther, m. '34, 6.
- Holcombe, Charles Clifford, m. '50, 23.
- † Holcombe, Hubert Vincent Clairborne [N. H.], m. '57, 18; '63, ii. 120, 122; Biog. sketch of, '75, 441.
- † Holcomb, Sewell [W.], m. '54, 17.
- † Holley, Francis Manton [N. H.], m. '57, 18.
- Holley, Pierre Robeau, m. '52, 21.
- † Hollister, Isaac T. [L.], m. *Re.* 290; '31, 8.
- † Holman, David [W.], m. '33, 10.
- † Holmes, Arthur Almond [F.], m. 84, 19, '85, 17.
- † Holmes, Christopher [M.], m. *Re.* 14, 137, 139, 165.
- † Holmes, David [N. L.], m. '40, 9.
- Holmes, Edwin Wilson, m. '42, 5.
- † Holmes, George James [H.], m. '83, 35; '88, 8, 15; '91, 23; Scarlet fever, '89, 93; vote of thanks to, '89, 29.
- † Holmes, Henry [M. and H.], m. *Re.* 290; '35, 3; '37, 3, 4; '39, 7; '43, 3; '61, ii. 23, 25; Biog. sketch of, '71, 484.

- * Holmes, Oliver Wendell, hon men., '55, 11; Boston, Mass.
Holmes, Thomas, m. *Re.* 240.
- † Holmes, Walter Hamilton [N. H.], m. '80, 24; '82, 34; '83, 5, 11, 17, 29, 45; '84, 15; '85, 17; '86, 8; '89, 7; '90, 46; '91, 33; Report, '86, 190; Fractures, '82, 51; Aspiration of the Chest, '83, 122; vote of thanks to, '83, 43.
- † Holmes, William Coe [N. H.], m. '82, 26.
- † Holt, Asa Miller [M.], m. *Re.* 290; '33, 7; '37, 3; '45, 5.
- † Holt, Daniel [H. and N. H.], m. '36, 8; '38, 3; '43, 3; '45, 13; M.D., Yale, 1835; died 1883.
- Holt, Erastus Eugene, of Maine, m. '78, 12, 28.
- † Holt, Hiram [W.], m. *Re.* 275, 278; '31, 3; '35, 3; '39, 3; '47, 3; '48, 3; '49, 5; '57, 3; '67, ii. 110; hon. deg. of M.D., '34, 6; Biog. sketch of, '71, 497.
- † Holt, Josiah [H.], m. *Re.* 12; '35, 15.
- Homiston, Joseph Mansfield, m. '72, ii. 20.
- † Hooker, Charles [N. H.], m. *Re.* 239, 245, 253, 259, 267, 285; '34, 5; '41, 3; '45, 5; '46, 3; '54, 11; '59, 6; Sec'y, '32, 6; '33, 6; '34, 3; '35, 3; '36, 3; '37, 3; Dissertation and vote of thanks, '30, 7; Biog. sketch of, '65, 137.
- Hooker, Edward Beecher, m. '91, 23.
- † Hooker, Hezekiah [N. H.], m. *Re.* 13; '35, 16.
- Hooker, John Worthington, m. '57, 25.
- Hooker, Thomas, Colonial physician, m. '51, 26.
- † Hooker, Worthington [N. L. and N. H.], m. '30, 9; '31, 3; '36, 3; '43, 3, 5; '45, 5; '50, 5; '52, 3; '53, 3; '54, 3; '66, ii. 101, 102; Sec'y, '44, 6; '45, 9; appointed Prof. Yale Med. Coll., '52, 8, 26; Essay, '44, 8; Antimony and Opium in Typhus, '66, 258; Sketch of Prof. Knight, '65, 147; Biog. sketch of, '70, 397.
- * Hooper, Foster, of Fall River, hon. mem., '56, 8.
- † Hopkins, Lemuel [H.], Corporator of the Conn. Med. Soc., *Re.* vi; m. *Re.* 3, 4, 9, 12, 21, 27, 28, 34, 43, 45, 50, 53, '61, 67, 71; '35, 15; Bilious concretions, *Re.* 57; Sketch of, '51, 55.
- † Horsford, Charles [W.], m. '63, ii. 98; '72, ii. 2; '76, 6, 10; Biog. sketch of, '77, 165.
- * Horton, George Firman, of Pa., m. '72, ii. 5, 7; hon. mem., '73, ii. 29; died Dec. 20, 1886.

- † Horton, William Wickham [H.], m. '80, 24.
- * Hosack, David, hon. mem., *Re.* 261; died Dec. 22, 1835.
- Hosford, Daniel, m. *Re.* 254.
- Hosford, Obadiah, Colonial physician, m. '51, 35; Sketch of, '70, 439.
- Hosmer, Alfred, of Mass., m. '79, 28.
- Hosmer, Timothy, m. '73, 197; Army surgeon in Revolutionary war.
- † Hotchkiss, Jacob Thompson [N. H.], m. '42, 8; death mentioned, '51, 19.
- † Hotchkiss, Norton R. [N. H.], October, 1891; New Haven; M.D., Univ. Md., 1891.
- † Hotchkiss, Obadiah [N. H.], m. *Re.* 12, 34, 43, 44, 45, 53, 57, 71, 72, 83, 87, 118, 165; died 1832.
- † Hotchkiss, William Henry [N. H.], m. '72, ii. 20; '75, ii. 83; '82, 23.
- † Hough, Alanson Hodges [M.], m. '33, 11; '51, 3; '81, 9; Memoir of Dr. King, '71, 502; Biog. sketch of, '87, 185.
- † Hough, Ensign [N. H.], m. *Re.* 13; '35, 16.
- † Hough, Henry Wightman [W.], m. '39, 14; '43, 3; '55, 3; '56, 3; '60, 6; '63, ii. 123; '75, ii. 78; '76, 5; '81, 8; Sketch of Dr. Marcy, '76, 141; of Dr. Hutchins, '86, 181.
- † Hough, Isaac Insign [N. H.], hon. deg. of M.D., *Re.* 241; died 1852.
- † Houghton, Alfred Swift [N. H.], 1891; Wallingford; M.D., Coll. P. & S., N. Y., 1880.
- † Houghton, Simon Willard [T. and H.], m. '86, 22; '91, 328.
- † Hovey, Daniel Alfred [W.], m. '30, 10; '37, 3; '47, 3; '50, 3; '55, 3; hon. deg. of M.D., '47, 7; Biog. sketch of, '79, 168.
- † Hovey, Jacob [W.], m. *Re.* 13; '35, 16.
- Hovey, James Alexander, m. '35, 5.
- † Howard, Arthur Wayland [H.], Wethersfield; M.D., Univ. N. Y., 1891.
- Howard, Horatio Nelson, m. '54, 23.
- † Howard, John [T.], m. *Re.* 148, 166, 172.
- † Howard, John [H.], m. '83, 35.
- Howard, Jonathan Jones, m. '51, 23.
- † Howard, Nathan [T.], m. *Re.* 15, 83, 87, 91, 95, 101, 119, 123, 129, 133, 138, 153, 165, 183, 189, 201, 233, 239; hon. deg. of M.D., *Re.* 202; Sketch of, '70, 446.

- Howard, Robert, Colonial physician, m. '61, 134.
- † Howard, William [H.], m. '74, ii. 53; '76, 153; '79, 26.
- † Howe, Harmon George [H.], m. '76, 12; '81, 16; '84, 4, 11, 15; '85, 8, 15; '87, 20; '88, 18; '89, 31; '90, 26; '91, 15, 21; Water, '89, 129.
- † Howland, Charles Hubbard [N. H.], m. '79, 180; '80, 193; '81, 239; '82, 26; '89, 31.
- † Hoyt, Ansel [F.], m. *Re.* 177, 207.
- † Hoyt, Curtis Clark [F.], m. '88, 27.
- Hoyt, Henry Augustus, m. '58, 8; '63, ii. 119.
- † Hoyt, James H. [F.], m. '58, 17; '73, ii. 41.
- † Hubbard, Charles Henry [M.], m. '58, 8; '60, 71; '67, ii. 110; '68, ii. 2, 4; '73, ii. 26; '76, 22, 265; '81, 9, 13; '91, 9.
- † Hubbard, Denison Hale [H. and M.], m. '30, 9; '33, 7; '36, 3; '40, 3; '60, 5, 7; '70, ii. 78, 81, 83, 84; '73, ii. 25, 30; Report, '72, 26; Biog. sketch of, '75, 437.
- Hubbard, Edward D., m. '63, ii. 86.
- † Hubbard, Leveritt [N. H.], Corporator of Conn. Med. Soc., *Re.* vi; m. *Re.* 3, 9, 12, 27; '35, 15; hon. deg. of M.D., *Re.* 23; Pres't, *Re.* 3, 21; Resolution to wear badge of mourning for, *Re.* 30; mem. of exam. committee for surgeons in Revolutionary war, '51, 49; Sketch of, '51, 58.
- † Hubbard, Myron Reed [N. H.], m. '39, 10; '41, 10; died 1848.
- † Hubbard, Nathaniel [N. H.], m. *Re.* 12, 43; '35, 15; Colonial physician, '53, 32.
- † Hubbard, Robert [F.] m. 49, 8; '51, 23; '52, 3, 5; '54, 3; '56, 3, 6; '58, 5; '60, 5, 7; '62, ii. 52, 53, 54, 55, 56; '63, ii. 123; '64, ii. 2; '72, ii. 4; '73, ii. 26, 28; '75, ii. 82; '83, 28; Vice-Pres't, '76, 8; Pres't, '77, 13; Dissertation, '67, 294; Address to Fellows, '78, 7; Mutual relations of the Public and the Medical Profession, '78, 30.
- † Hubbard, Russell Benjamin [W.], m. *Re.* 290; M.D., Jefferson, 1827.
- * Hubbard, Samuel Thomas, m. '69, ii. 38, 44; hon. mem., '70, 85; resides in New York city.
- † Hubbard, Stephen Grosvenor [N. H.], m. 49, 14; '52, 3; '53, 3; '54, 11; '57, 10; '67, ii. 109, 112, 113, 119; '68, ii. 1, 4, 5, 7; '70, ii. 78, 80, 85; '71, ii. 117; '72, ii. 8; '73, ii. 26; '74, ii. 52; '76, 10; '78, 10, 13, 18, 19, 234; '79, 10,

- 13, 23; '82, 33; '85, 8, 11, 15, 18, 22; '86, 16, 62; '87, 27; '88, 18, 28, 29; '89, 19, 22, 24; '90, 26; Dissertation, and vote of thanks for, '55, 8; Reports, '81, 24; '83, 19; '86, 220; Nom. prof. obstet. Med. Dept. Yale, '64, ii. 27; Registration, '55, 73; Case of Pres't Day, '68, 145; Addison's disease, '69, 281; Specialism, '70, 346; Aphasia, '88, 144; Centennial observations, '85, 96; Essay, '87, 113; Sketch of Dr. Tyler, '86, 176.
- † Hubbard, Thomas [W.], m. *Re.* 61, 62, 71, 83, 84, 87, 123, 133, 137, 143, 147, 153, 165, 171, 177, 183, 299; '30, 4; '31, 3; '32, 3; '34, 5; hon. deg. of M.D., *Re.* 155; Vice-Pres't, *Re.* 189, 195, 201, 207, 213, 223; Pres't, 233, 239, 245, 253, 259; Resolutions of sympathy on death of, '39, 6.
- † Hubbell, John Wesley [N. H.], m. '46, 13.
- † Hudson, Erasmus Darwin [H. and L.], m. *Re.* 289; '30, 9 (erroneously printed *W. F. Hudson*); '31, 6; '32, 7; '36, 3; '38, 3; died Dec. 31, 1880.
- † Hudson, William Miller [H.], m. '66, ii. 90; '70, ii. 86; '82, 8, 13, 17; '84, 15; '90, 25.
- † Huggins, Erasmus Darwin [L.], m. '53, 3; M.D. Univ. N.Y., 1850; death mentioned, '56, 19.
- † Huggins, William Henry [H.], m. '34, 7.
- † Hughes, Dyer [W.], m. *Re.* 290; '44, 5; '53, 3.
- † Hughes, Dyer, Jr. [W.], m. '35, 10; '58, 6; '82, 25; Biog. sketch of, '83, 181.
- † Hughes, Oliver John Davis [N. H.], m. 85, 20; '87, 8; '88, 8, 15; '89, 21; '91, 8, 21, 22; Typhlitis, '90, 219.
- Huit, Ephraim, Colonial physician, m. '61, 133.
- † Hulbert, William Sharon [L.], m. '90, 32.
- † Hull, Amos G. [N. H.], '34, 8.
- † Hull, Amzi [N. H.], m. *Re.* 13; '35, 16; '51, 58; '73, 200.
- † Hull, David [F.], m. *Re.* 15; '35, 16; Sketch of, '53, 49.
- † Hull, Titus [L.], m. *Re.* 14; '35, 16.
- Humiston, Cyrus Edward, m. '63, ii. 106.
- † Humiston, Luther F. [F.], m. '54, 3.
- † Humphrey, Asahel [L.], m. '31, 8.
- † Humphrey, Phelps [H.], m. *Re.* 289.
- † Hungerford, Allyn Merriam [N. H. and H.], m. '39, 12; '40, 8; died 1883.
- † Hungerford, Henry [F.], m. '81, 19.

- † Hungerford, Robert [N. H.], m. '87, 25; Biog. sketch of, '89, 267.
- † Hunt, Chester [W.], m. *Re.* 239, 290; '32, 7; '38, 3; '42, 3; '45, 5.
- † Hunt, David [N. L.], m. '75, ii. 151; died 1837.
- † Hunt, Ebenezer [T.], m. *Re.* 15, 112, 137; '71, 446; died 1812.
- † Hunt, Ebenezer Kingsbury [H.], m. '40, 8; '45, 5; '46, 8; '48, 3; '49, 3; '55, 3, 6; '57, 10; '58, 9; '69, ii. 58; '70, ii. 77, 79, 84, 86; '72, ii. 4; '73, ii. 45; '74, ii. 52; '75, ii. 77, 81; '76, 6, 7, 10, 14; '78, 7; Report upon revision of constitution, '50, 24; upon insane convicts, '58, 55; upon registration, '58, 58; Dissertation, '47, 5; Essay, '63, 265; Vice Pres't, '61, ii. 25; '62, ii. 54; Pres't, '63, ii. 82; '64, ii. 3; Address upon inert practice, '64, 1; Address, '65, 67; Vote of thanks to, '65, ii. 42; Sketch of Dr. Sumner, '55, 53; Biog. sketch of, '89, 235.
- † Hunt, Eleazer [T.], m. *Re.* 172, 189, 195, 223, 233, 239, 245, 253, 259; '30, 3, 5; '32, 7; '39, 3; hon. deg. of M.D., *Re.* 260; Biog. sketches of, '67, 321; '70, 446.
- † Hunt, Josiah Fuller [N. H.], m. *Re.* 246; '35, 3; '38, 3; died 1843.
- † Hunt, Orrin [T.], m. *Re.* 208, 253, 259; Sketch of, '70, 433.
Huntington, Abel, m. '62, 181; M.D., Univ. N. Y., 1862.
- † Huntington, Andrew [W.], m. *Re.* 290; hon. deg. of M.D., *Re.* 246; died 1837.
- † Huntington, Asher [N. L.], m. *Re.* 16.
Huntington, Christopher, Colonial physician; Sketch of, '62, 174.
- † Huntington, Eliphalet [W.], m. 65, ii. 36; '68, ii. 2; '70, ii. 78; '73, ii. 25; '75, ii. 78; '83, 34; Biog. sketch of, '83, 180.
- † Huntington, George [F.], m. '52, 15.
- † Huntington, Samuel Henry [L. and F.], m. '75, ii. 80; '76, 154; '78, 11, 22; '80, 24; '81, 226.
- † Huntington, Thomas [W.], m. *Re.* 290; '30, 3.
- † Huntington, William T. [M.], m. 32, 10.
- † Hurd, Curtiss, Jr. [L.], m. *Re.* 18.
- † Hurd, George L. [L.], m. '31, 8.
- † Hurd, Theodore Canfield [L.], m. '31, 8; '33, 7; died 1845.
- † Hurlburt, Hosea [F.], m. *Re.* 4, 9, 15, 21, 27, 28, 61, 62, 67,

71, 83, 95, 101, 102, 117, 137; '35, 15; '73, 197; hon. deg. of M.D., *Re.* 97; Sketch of, '53, 51.

Hurlburt, James, Colonial physician, sketch of, '51, 41.

† Hurlbut, Augustus Moën [F.], m. '82, 26.

† Hurlbut, George Almarin [H.], m. '67, ii. 124; '74, ii. 62; '83, 134; Biog. sketch of, '83, 170.

† Hurlbut, Lewis Raymond [F.], m. '50, 23; '54, 17.

* Husted, Nathaniel Clark of N. Y., m. '63, ii. 88; hon. mem., '64, ii. 7; died Nov. 19, 1891.

† Hutchins, Cyrus [W.], m. '42, 10; '44, 5; hon. deg. of M.D., '43, 5.

† Hutchins, Darius [W.], m. *Re.* 123, 133, 137, 143, 147, 159, 165, 171, 183, 195, 201, 275, 286; '30, 5; '34, 3; '39, 3; hon. M.D., Yale, 1829; died 1839.

Hutchins, James Henry, m. '35, 5.

Hutchins, John, Colonial physician; Sketch of, '70, 429.

† Hutchins, Penuel [W.], m. *Re.* 13, 53, 71, 83, 87, 95, 101, 177, 183, 189, 207, 213; hon. deg. of M.D., *Re.* 196; died 1839.

† Hutchins, Samuel [W.], m. '50, 13; '51, 3; '52, 3; '59, 6; '63, ii. 82; '65, ii. 36; '67, ii. 110, 113; '68, ii. 2, 5; '70, ii. 78; '72, ii. 2, 5, 6; '76, 6, 7, 9; '77, 15; '79, 10; '80, 8; '83, 4; Sketch of Dr. Whitcomb, '82, 170; Vice Pres't, '85, 16; Biog. sketch of, '86, 181.

† Hutchins, Waldo [W.], m. *Re.* 223, 233, 239, 245, 253.

† Hutchins, William [W.], m. *Re.* 259, 267, 275, 285; '31, 3; '33, 7; '40, 3; '41, 3.

† Hutchinson, Elisha [N. L. and N. H.], m. *Re.* 290; '45, 5; M.D., Yale, 1828; died 1862.

† Hutchinson, Ira [M.], m. *Re.* 290; '31, 3; '32, 7; '35, 3; '39, 3; '42, 3; '45, 5; '49, 3; '53, 3; '57, 3; '60, 5, 6, 7, 8, 10; '65, ii. 36; '66, ii. 78, 79, 82; '79, 10; '82, 9, 25; Sketch of Dr. Charles Woodward, '71, 473; of Dr. Hubbard, '73, 437; Vice-Pres't, '72, ii. 4; Pres't, '73, ii. 28; Alcohol, '73, 225; vote of thanks to, '74, ii. 55; Biog. sketch of, '82, 177.

Hutchinson, James H., m. '38, 5.

† Hutchinson, Prosper Kimball [W.], m. '45, 9; '46, 14.

Hutchinson, William Forrest, of R. I., m. '84, 17.

- * Hutchison, Prof. Joseph Chrisman, m. '68, ii. 3, 7; '73, ii. 31; '91, 32; hon. mem., '69, ii. 41; Biog. sketch of, '91, 295.
- † Huxley, Asahel Milton [L.], m. '33, 10; '39, 3; '41, 3; '47, 3; '51, 3, 8; '54, 3; '58, 6; '63, ii. 82; Biog. sketch of, '64, 61.
- † Hyde, Allen [H. and T.], m. *Re.* 17, 178, 183, 253; hon. deg. of M.D., *Re.* 246; death mentioned, '56, 19; Sketch of, '70, 438.
- † Hyde, Nathaniel [N. L.], m. *Re.* 16.
- † Hyde, Phineas [N. L.], m. *Re.* 16; Army surgeon Rev. War, '62, 180.
- † Hyde, William [N. L.], m. *Re.* 289; '35, 3; '37, 3; '41, 3; '44, 5; hon. deg. of M.D., '35, 5.
- † Hyde, William, Jr. [N. L.], m. '32, 9; '59, 5; Biog. sketch of, '74, 267.
- † INDICOTT, John [H.], m. *Re.* 12; '35, 15.
- † Ingalls, Phineas Henry [H.], m. '83, 29, 35; '86, 8, 13, 61; '87, 8, 13, 14, 20, 21, 111; '88, 18, 29; '89, 21, 29; '90, 26, 29, 37; Parturition, '86, 64; Uterine cancer, '89, 61; vote of thanks to, '89, 29.
- † Irving, Joel Fuller [H.], m. '39, 10. See Joel F. *Erving*.
- † Irving, Samuel Wellington [H.], 1891; New Britain; M.D., Yale, 1891.
- † Irwin, Erastus [F.], m. '49, 15; '50, 13.
Isham, Lucius Dwight, m. '48, 6; died 1883.
Isham, Nelson, m. *Re.* 260; M.D., Yale, 1828.
- † Isham, Oliver Kingsley [T.], m. *Re.* 275, 285, 290; '31, 3; '33, 7; '37, 3; '42, 3; '44, 5; '53, 3, 8; M.D., Yale, 1822; died 1872.
- † Ives, Ambrose [L.], m. '32, 10; Sketch of Dr. Rockwell, '60, 67.
- † Ives, Charles Linnæus [N. H.], m. '55, 18; '60, 6, 7, 8, 11; '64, ii. 7; '65, ii. 40; Human embryology, '58, 85; Prophylaxis of phthisis, '66, 185; Mercury, prize essay, '66, 204; vote of thanks to, '66, ii. 83; '67, ii. 113; Nom. prof. Med. Inst. of Yale, '68, ii. 25; Biog. sketch of, '79, 162.
- † Ives, Eli [N. H.], m. *Re.* 118, 119, 123, 133, 137, 143, 147, 153, 177, 183, 195, 201, 207, 213, 223, 229, 233, 239, 276, 285, 299; '30, 4, 6; '32, 3; '36, 4; '43, 7; '44, 8;

- '46, 3; '47, 3; '51, 3; '52, 3; hon. deg. of M.D., *Re.* 155; Hydrophobia, *Re.* 343; Sec'y, *Re.* 159, 165, 171; Vice-Pres't, *Re.* 245, 253, 259; Biog. sketch of, '67, 311.
- † Ives, Levi [N. H.], Corporator of the Conn. Med. Soc., *Re.* vi.; m. *Re.* 12, 27, 95, 101, 111, 117, 118; '73, 192; Regimental surgeon in Rev. war, '51, 49.
- † Ives, Levi, 2d [N. H.], m. '39, 12; '44, 5; '66, ii. 77; '72, ii. 4; died 1891.
- † Ives, Nathan Beers [N. H.], m. *Re.* 289; '32, 7; '33, 7; '35, 3; '37, 3; '39, 3; '41, 3; '42, 3; '44, 7; '49, 3, 9; '55, 3; '57, 3, 10; '59, 10; '63, ii. 81, 82, 86; Vote of thanks to, '45, 5; Vice-Pres't, '63, ii. 82; '64, ii. 3; Pres't, '65, ii. 36; died 1869.
- † Ives, Robert Shoemaker [N. H.], m. '67, ii. 132; '73, ii. 28.
- † Ives, Sumner [H.], m. '32, 8; '37, 2.
- † JACKSON, CHARLES ROSS [N. H.], m. '91, 31.
- * Jackson, James, m. *Re.* 268; hon. mem., 261; died 1867.
- † Jackson, James Corbin [H.], m. '48, 11; '52, 3; '62, ii. 51, 55; '71, ii. 117; '72, ii. 3; '74, ii. 49, 52; '76, 5, 8, 9, 10; '77, 8; '78, 15; '79, 21; '80, 22; '82, 25; Treas'r, '63, ii. 82; '64, ii. 3; '65, ii. 36; '66, ii. 78; '67, ii. 112; '68, ii. 2; '69, ii. 38; '70, ii. 80; '71, ii. 113; '72, ii. 4; '73, ii. 28; '74, ii. 52; '75, ii. 80; Dissertation, '63, 245; Sketch of Dr. Beresford, '74, 277; Address by, '73, ii. 32; Vote of to, '76, 11; Biog. sketch of, '82, 151.
- † Jacobs, Dana Dalton [W.], m. '86, 21 (Jacobs D. Dalton in the Proceedings).
- Jacobs, Ferris, of N. Y., m. '72, ii. 7.
- Janeway, Edward Gamaliel, of N. Y., m. '91, 27.
- † Jarvis, George Cyprian [H.], m. '63, 129, 124; '71, ii. 109; '72, ii. 2, 4; '74, ii. 52; '76, 9; '80, 22; '86, 19; Reports, '77, 68; '78, 225, 227; '79, 66; '81, 76; Cancer, '76, 37.
- † Jarvis, George Oglevia [L. and M.], m. *Re.* 290; '31, 3; '44, 5; '52, 3, 9; '72, ii. 2; Report of committee upon his fracture splint, '43, 5; Report of com. upon his surgical adjuster, '45, 8; Electricity, '75, 411; Biog. sketch of, '75, 430.
- † Jauncey, Joseph [F.], m. '40, 10; dismissed, '51, 6.

- † Jennings, George Herman [N. L.], m. '76, 12; '85, 8; '88, 8, 29; '89, 31; '90, 8, 26; Report, '83, 72; Essay, '89, 116; Intestine, '90, 112; vote of thanks to, '89, 30.
- † Jennings, Isaac [F. and N. H.], m. *Re.* 195, 201, 207, 213, 239, 253, 259, 267, 275; '30, 5; '32, 7; hon. deg. of M.D., *Re.* 277; died 1874.
- † Jerome, Jason [H.], m. *Re.* 12; '35, 15; Wintonbury; died 1803.
- Jepson, William; Army surgeon in Rev. war, '51, 49.
- Jewett, Daniel Lee, m. '63, ii. 123.
- † Jewett, James Waldo [N. H.], m. '85, 20; Report, '86, 167.
- † Jewett, Joseph [H.], m. *Re.* 12; '35, 15.
- † Jewett, Joseph Franklin [H.], m. '40, 8; '41, 3; hon. deg. of M.D., '41, 8; Biog. sketch of, '60, 57.
- † Jewett, Levi [H.], m. '62, ii. 63; '63, ii. 96, 122; Asst. Surg. 14th Regt. Conn. Vols.; wounded Aug. 25, '64.
- † Jewett, Pliny Adams [N. H.], m. '41, 10; '44, 5; '50, 3, 5; '51, 3; '52, 21; '54, 4; '56, 3, 24; '57, 3, 13; '61, ii. 24, 25, 27, 29; '64, ii. 2; '72, ii. 1, 2, 5, 8; '73, ii. 32; '74, ii. 49, 51; '75, ii. 77, 84; '76, 10; '78, 24; '79, 10, 11, 12, 17, 18, 22, 25, 28, 29; '82, 22, 23; '84, 18; Reports, '77, 83; '78, 104; '79, 78; Vesico-vaginal fistula, '75, 369; Vote of thanks to, '76, 13; Vice-Pres't, '74, ii. 52; Pres't, '75, ii. 80; Biog. sketch of, '87, 169.
- † Jewett, Thomas Backus [N. H.], '79, 26; Atropine, '79, 82, 180; Biog. sketch of, '87, 173.
- † Johnson, Dwight David [H.], m. '85, 21.
- † Johnson, Frederick Eugene [T.], m. '80, 24, 191.
- † Johnson, George Oliver [M.], m. '76, 13.
- Johnson, John, m. '55, 9.
- Johnson, Laban Hartwell, m. '71, ii. 113; '76, 154.
- † Johnson, Marcus Morton [H.], m. '80, 23; '87, 29; Report, '82, 42; '83, 56; Milk, '81, 180.
- † Johnson, Norman Knox [H.], m. '43, 6; '44, 21; '48, 11; died 1854.
- Johnson, Peleg, m. *Re.* 190; hon. deg. of M.D., '42, 5; died 1859.
- † Johnson, Rufus [W.], m. *Re.* 13, 159, 171, 177, 183, 189, 195.
- † Johnson, Samuel [N. L.], m. '32, 9; '77, 9; Biog. sketch of, '79, 167.

- † Johnson, Sheldon Crittenden [N. H.], m. *Re.* 289; Biog. sketch of, '88, 215.
- Jones, Henry Webster, m. '57, 7; '58, 53; resides in London, Eng.
- † Jones, Timothy [H.], m. '40, 8.
- † Joslin, George Harry [N. H.], m. '90, 32; '91, 329.
- † Judson, Frederick Joseph [F.], m. '32, 9; '47, 11; '50, 3, 5; '53, 3; death mentioned, '62, ii. 67.
- † Judson, George [F.], m. '40, 9; dismissed, '51, 6.
- † Judson, George [L.], m. '51, 10.
- Judson, Hezekiah Tomlinson, m. *Re.* 224; M.D., Yale, 1822.
- † Judson, Horace [L.], m. '33, 10.
- † Judson, John [F.], m. *Re.* 223, 259. 290; '30, 3; '37, 3; hon. deg. of M.D.; '30, 6; died 1839.
- Judson, Reuben Warner, m. '53, 23.
- † Judson, Walter [N. H.], m. '72, ii. 7; '74, ii. 53.
- † Judson, William Henry [W.], m. '79, 27; '81, 9.
- † KAIN, John Henry [N. H.], m. '37, 3, 9; M.D., Jefferson, 1837; died 1849.
- † Kane, John Henry [N. H.], m. '86, 21; moved to West Gardner, Mass.
- † Kane, Thomas Francis [H.], m. '89, 26.
- † Kasson, Benadam [N. H. and H.], m. '33, 8; '48, 11.
- † Kean, Mrs. L. Darnstadt [H.], m. '91, 31.
- † Keep, Lester [N. H.], m. '30, 9; '39, 3.
- † Keese, Hobert [N. H.], m. '55, 18, 25; '56, 16; M.D., Yale, 1855; died 1871.
- † Kellogg, Alfred [H.], m. *Re.* 224; '37, 8; '41, 3; hon. deg. of M.D., '43, 5; died 1870.
- † Kellogg, Amasa [L.], m. *Re.* 290.
- † Kellogg, Oliver Wolcott [H.], m. '55, 17; M.D., Jefferson, 1842.
- † Kellogg, Walter L. [N. H.], m. '54, 16; M.D., Univ., N. Y., 1850.
- † Kelly, John Edward [F.], m. '88, 27.
- † Kelsey, William Lord [T.], m. '77, 18; '79, 9; '82, 9, 14; Report, '78, 170; resides in Princeton, Mass.
- † Kendall, John Calvin [F.], m. '77, 18; '82, 9; Report, '82, 66.

- † Kendall, Joshua [N. H.], m. '34, 7; death mentioned, '91, 32.
- † Kenny, John [F.], m. '47, 11; M.D., Univ., N. Y., 1846.
- † Keniston, James Mortimer [M.], m. '82, 27; '87, 9, 13, 20; '88, 28, 76; '89, 29; '90, 26, 41; Essay, '90, 73; M.D., Harvard, 1871.
- † Kent, John Bryden [W.], m. '71, ii. 125; '72, ii. 2, 4; '75, ii. 81; '78, 11, 14, 29; '79, 10, 21; '80, 26; '83, 5, 11, 28; '85, 17; '88, 9, 18; '89, 7; '91, 22, 40; Reports, '77, 93; '82, 72; '83, 80; '86, 202; Essay, '80, 150; Vote of thanks to, '80, 26; Scrofula, '87, 49; Tuberculosis, '91, 169.
- Kenyon, Napoleon Bonaparte, m. '64, ii. 26.
- † Kessler, Adolph [H.], m. '63, ii. 96.
- † Ketchum, Leander Young [L.], m. '83, 5, 35; '84, 5.
- † Kibbe, William [L.], m. '33, 10.
- Kies, Eleazer F., m. '47, 5.
- † Kimball, Ernest Dwight [W.], m. '86, 21.
- * Kimball, Gilman, hon. deg. of M.D., '56, 8; hon. mem., '57, 8; died July 27, 1892.
- † Kimberly, Liberty [N. H.], m. *Re.* 13; '35, 16; died 1827.
- † King, Asa Howe [M.], m. *Re.* 234, 290; '32, 7; '36, 3; '43, 3; '47, 3; '52, 3; Biog. sketch of, '71, 502.
- † King, Jeremiah [N. L.], m. '47, 10; '51, 3; died 1863.
- King, Orestes, m. *Re.* 79.
- † Kingsbury, Joseph [T.], m. *Re.* 15; '35, 16; Sketch of, '70, 437.
- Kingsbury, Obadiah: Memorialist of 1763 to the General Assembly of the Colony of Connecticut, *Re.* iv.; Sketch of, '51, 52.
- † Kingsley, Oliver [N. L.], m. '32, 9; '38, 10; died 1847.
- † Kingsley, Oliver, Jr. [W.], m. '40, 10.
- † Kinney, Elijah Clark [N. L.], m. '72, ii. 15; '73, ii. 26; '75, ii. 82; '78, 11, 12; '79, 9, 10, 11, 13, 16; '80, 22; '81, 8, 16; '82, 8, 13; '83, 4; '84, 4; '86, 7; '87, 28; '88, 18, 28; '90, 26; Reports, '80, 19; '84, 33, 43; Typhlitis, '79, 92; Sketch of Dr. Roath, '81, 219, of Dr. Dyer, '82, 168; Vice-Pres't, '84, 15; Pres't, '85, 16; Address to Fellows, '86, 9; Address to Convention, '86, 24; died Oct. 19, 1892.
- † Kinney, Lot W. [N. L.], m. '71, ii. 133.
- † Kirtland, Billious [N. H.], m. *Re.* 13, 246; '35, 16.

- † Kirtland, Jared Potter [M.], removed to Cleveland, O.; m. '74, ii. 53; '82, 148.
- † Kissam, Richard Sharpe [H.], m. '30, 9.
- † Kittredge, Thomas Bond [H.], m. '44, 13.
- † Knapp, Caleb [L.], m. *Re.* 14; '35, 16.
- † Knapp, Colby [F.], m. '75, ii. 152; '35, 9; M.D., Yale, 1825; died 1853.
- † Knight, Albert C. [L.], 1833.
- † Knight, Daniel [W.], m. '30, 10; Thompson, Windham Co.
- † Knight, Earl [N. L.], m. *Re.* 289; '30, 10; M.D., Yale, 1819; died 1832.
- Knight, Frederick Irving, of Boston, m. '75, ii. 79, 84.
- † Knight, George Henry [L.], m. '87, 26.
- † Knight, Henry Martin [T. and L.], m. '51, 18; '57, 4; '58, 18; '61, ii. 24; '62, ii. 52; '64, ii. 2, 9; '66, ii. 78, 79, 81; '69, ii. 38, 39, 44; '71, ii. 113, 114; '72, ii. 9; '77, 9, 10, 12, 16; '78, 15, 20; '80, 13, 23; Hallucinations of children, '72, 133; Vote of thanks to, '72, ii. 9; Sketch of Dr. Deming, '78, 215; Biog. sketch of, '80, 180.
- † Knight, Isaac [W.], Corporator of the Conn. Med. Soc., *Re.* vi.; m. *Re.* 3; '35, 15; died 1818.
- † Knight, Isaiah [W.], m. *Re.* 13; '35, 16.
- † Knight, Jonathan [N. H.], m. *Re.* 189, 195, 229, 275; '30, 3, 5; '32, 7; '34, 5; '40, 3; '43, 7; '44, 5, 8; '45, 5; '50, 8; '55, 3, 6; '58, 5; '59, 6, 7, 8, 10; Sec'y, *Re.* 201, 207, 213, 223, 233, 239, 245, 253, 259; Report, '51, 5; Morbid specimens, '54, 8; Sketches of deceased physicians, '59, 85, 91; Biog. sketch of, '65, 147.
- † Knight, Jonathan, Sr. [F.], m. *Re.* 15; '35, 16; Sketch of, '53, 50; '62, 181.
- † Knight, Robert Phelps [L.], m. '82, 27; '84, 5; '88, 29.
- † Knight, William M. [L.], m. '54, 11, 18.
- † Knight, William Ward [H.], m. '77, 17; '85, 22; '86, 8, 18, 206; '87, 15; '89, 29, 32; '90, 25, 43; Report, '90, 28; Treas'r, '88, 17; '89, 20; '90, 13; '91, 16; Essay, '85, 115; Bright's disease, '89, 167; Perityphlitis, '90, 242.
- † Knight, William Wilshire [L.], m. '58, 18; '72, ii. 2; '85, 17.
- † Knowlton, Wallace Miles [W.], m. '83, 36; moved to Brookline, Mass.

† Kob, Charles P. [H.], m. '52, 13.

† Koernbach, Jacob N. [H.], m. '55, 17.

LABORIE, JAMES, Colonial physician, m. '53, 28; Biog. sketch of, '51, 30.

† Lacey, William Bigelow [L.], m. '37, 11; '50, 14.

† Lacey, William Frederick [F.], m. '43, 6; '44, 21; '81, 19.

† Lacy, Edwin [F.], m. '32, 9; '43, 3.

† Lacy, Noah A. [F.], m. *Re.* 159, 166, 171, 178, 183, 189, 201, 207, 213; '50, 13; hon. deg. of M.D., *Re.* 246; died 1875.

† Ladd, Abijah [T.], m. *Re.* 179, 253, 267, 290; '33, 7; '34, 3; '39, 3; '41, 3; '46, 4; hon. deg. of M.D., '34, 6; Sketch of, '70, 429.

† Ladd, Rudolphus [T.], m. *Re.* 171, 183, 189.

† Ladd, Samuel Pierpont [M.], m. '80, 24.

Ladd, Theodore Stearns, m. '45, 9.

† Lambert, Benjamin Lott [N. H.], m. '84, 18.

† Landon, John H(enry) [T.], m. '30, 11.

† Landon, Norman [L.], m. *Re.* 290; '30, 10; *Langdon* in the Proceedings; M.D., Yale, 1827; died 1830.

† Lane, Owen [W.], m. '73, ii. 30.

† Langdon, Timothy [N. H.], m. '39, 10; '52, 14; died 1874.

† Langworthy, Isaac Pendleton [N. L.], m. '33, 9.

† La Pierre, Julian [T. and N. L.], m. '76, 13; '77, 9; '82, 27; '84, 4, 9; '85, 8, 10; '88, 8, 29; Essay, '88, 151.

Larned, William H., m. '52, 6.

† La Rue, Omer [W.], m. '73, ii. 41; '74, ii. 50; '84, 4.

† Lathrop, De Witt Clinton [W. and N. L.], m. '48, 13; '49, 3; '55, 3; '58, 6; '60, 5, 7, 8, 9; Biog. sketch of, '64, 64.

† Lathrop, James Campbell [W.], m. '77, 18; Biog. sketch of, '80, 178.

† Latour, Andre Alexandre [W.], m. '82, 27.

† Lauder, Robert [F.], m. '71, ii. 125, 127; '74, ii. 50, 51; '76, 21; '78, 11, 18; '84, 4; '88, 7, 15, 19, 29; '90, 8, 11, 12, 13, 28, 29; Reports, '85, 83; '86, 199, 201; Essay, '88, 109.

† Lawler, Timothy Christopher Ambrose [T.], 1892; Rockville; M.D., Bellevue, 1892.

† Lawry, David F. [M.], m. '71, ii. 126.

- † Lawton, John William [N. H.], m. '61, ii. 36; '63, ii. 123; Report, '62, 218.
- † Lay, Willoughby Lynde [N. H.], m. *Re.* 179, 190, 223; '46, 3; '57, 3; died 1859.
- Lea, Walter Lonsdale, m. '82, 200.
- † Leach, Henry Ward [N. L.], m. '52, 14.
- † Leavenworth, David [L.], m. *Re.* 13; '35, 16.
- † Leavenworth, Daniel Carroll [N. H.], m. '65, ii. 58; '72, ii. 7.
- † Leavenworth, Melines Conklin [N. H.], m. '42, 9; '43, 3; '46, 3; '58, 5; Biog. sketch of, '66, 269.
- * Lee, Charles Alfred, hon. mem., '47, 7; died Feb. 14, 1872.
- † Lee, Graham [H. and L.], m. '47, 9; '48, 14; M.D., Yale, 1847.
- † Lee, James [N. L.], m. *Re.* 16, 87, 101, 102; withdrew from the Soc., 1805.
- † Lee, Jonathan Hamilton [M.], m. '56, 9; '63, ii. 124; '75, ii. 84; '82, 25; Biog. sketch of, '82, 179.
- † Lee, John Riley [H.], m. '33, 8; M.D., Yale, 1829; died 1884.
- † Lee, Moses Allen, m. '30, 3; '31, 3; M.D., Berkshire, 1826.
- † Lee, Samuel H. P. [N. L.], m. *Re.* 123, 133, 137, 147, 153, 159, 165, 171, 177, 183, 213; Vote of thanks for "ingenious answers" to prize questions, *Re.* 28, 39; Recipe of his "New London Bilious Pills," *Re.* 113; Report of Com. upon conduct of, *Re.* 118.
- † Lee, Thomas Goodrich [H.], m. '33, 8; M.D., Yale, 1830; died 1836.
- † Lee, Thomas Goodrich [N. H.], m. '87, 25; '88, 29; '89, 8, 15, 31.
- † Leighton, Alton Winslow [N. H.], m. '79, 180; '80, 24, 193; '84, 22; Laparotomy, '85, 80.
- † Lemmur, George Edward [F.], m. '86, 21.
- † Leonard, Algernon Sidney [W.], m. '70, ii. 93; '73, ii. 30; '82, 9.
- † Leonard, Elbridge Knowlton [T.], m. '66, ii. 102; '78, 16; '82, 9; '83, 45; '84, 5; '89, 21; '90, 7, 26.
- Leonard, William Huntington, '53, 23.
- † Lester, John [F.], Corporator of the Conn. Med. Soc., *Re.* vi.; m. *Re.* 4, 15; Sketch of, '53, 48.
- † Lewis, Algernon Sidney [L.], m. *Re.* 290; '31, 8.
- † Lewis, Bennett Sperry [N. H.], m. '75, ii. 79; '76, 12.
- Lewis, Charles Henry, m. '67, ii. 133.

- † Lewis, George Francis [H.], m. '64, ii. 6; '65, ii. 58; '68, ii. 1; '73, ii. 26; '75, ii. 78, 83; '80, 22; '82, 8, 14; '83, 4; '87, 8, 21; '88, 8, 15, 28; '89, 17; Speculum, '70, ii. 86.
- † Lewis, George Frederick, of Bridgeport [F.], m. '67, ii. 132; '77, 9, 12, 15; '80, 22; '81, 15; '82, 8, 22; '82, 5, 11, 16, 28; '85, 18; '86, 19; Report, '83, 56; Sketch of Dr. Dyer, '78, 214.
- † Lewis, George Frederick, of Stratford [F.], m. '85, 18; '86, 21.
- † Lewis, George H. [H.], m. '30, 9; M.D., Jefferson, 1830.
- † Lewis, John Benjamin [T. and H.], m. '55, 20; '58, 4, 6, 7, 8, 9; '59, 4, 6, 7, 8, 9; '60, 4, 7, 8, 11, 73, 74; '61, 32, 42; '63, ii. 119; '67, ii. 114, 120; '68, ii. 11, 25; '70, ii. 91; '83, 44; '90, 19; '91, 25; Sketch of Dr. Peters, '58, 115, of Dr. Dow, '60, 59; Dissertation, Hered. Predisposition, '61, 87; vote of thanks to, '61, ii. 25; Intracranial hemorrhage, '86, 109; Letter to, '90, 285; Letter by, '90, 289.
- † Lewis, Ozias [L.], m. '33, 10.
- † Lewis, William Albert [W.], m. '52, 15; '55, 3; '58, 6; '59, 6, 7; '64, ii. 2; '68, ii. 2; '73, ii. 26, 27, 29; '75, ii. 81; '76, 6, 10; '77, 8, 9, 10, 12; '80, 7, 9, 14, 16; '81, 16; '83, 45; '84, 3; '87, 7, 22; '90, 8, 26; Sketch of Dr. Cogswell, '77, 156, of Dr. Baldwin, '89, 253.
- † Lewis, William Jerauld [H.], m. '82, 26.
- † Lindsey, Silas Foster [T.], m. '46, 10; '50, 14; M.D., Yale, 1849.
- † Lindsley, Charles Augustus [N. H.], m. '52, 14, 21; '70, ii. 77, 78, 79, 83, 84; '71, ii. 110, 113, 114; '72, ii. 1, 2, 5, 8; '73, ii. 31; '74, ii. 47, 50, 52, 53, 55; '75, ii. 77, 81, 82, 83; '76, 6, 7, 9, 10, 11, 12, 13, 14; '77, 8, 11, 12, 14, 16, 19, 20; '78, 25; '79, 17, 21; '80, 15, 16, 18; '81, 16, 21, 23, 34, 53; '82, 8, 14, 23, 33, 34; '84, 9, 15; '85, 17; '86, 19; '88, 18, 28; '89, 17, 21, 24, 29; '90, 14, 20, 24, 25, 34, 37; '91, 18, 19, 20, 22, 35, 36, 37; Reports, '73, 206, 216; '74, 240; '75, 327; '76, 16, 78; '77, 55; '78, 23; '90, 18; Nom. prof. Med. Dept. Yale, '60, 73; Puerp. convuls., '58, 71; Proprietary med., '82, 103; Memoir of Dr. Matthews, '75, 427; Vice-Pres't, '90, 25; Pres't, '91, 20.
- † Lindsley, Charles Purdy [N. H.], m. '77, 179; '78, 22, 226, 227.
- † Lindsley, Ebenezer [T.], m. '32, 11; '43, 3; '53, 3, 8.
- † Lindsley, Jacob [N. H.], m. *Re.* 259; '30, 9.
- † Lines, Jairus Francis. See Jairus F. *Lynes.*

- † Linquist, Charles Frederick [M.], '84, 192; '86, 22.
- * Linsley, Jared; hon. mem., '62, ii. 53; died July 12, 1887.
- Lister, Sir Joseph, of London, '91, 27.
- † Litchfield, Eleazer [W.], m. *Re.* 290; '35, 3; '40, 3; '41, 3; '46, 3; hon. deg. of M.D., '41, 8.
- Little, Herbert Warren, m. '77, 179; '78, 226, 227; '79, 179.
- † Lloyd, Samuel [N. H.], m. '43, 9; death mentioned, '62, ii. 67.
- Lobdell, Henry, m. '50, 23.
- Lockwood, Charles Edward, of N. Y., m. '90, 43.
- † Lockwood, Robert H. [F.], m. '47, 11; M.D., Univ. of N. Y., 1843.
- † Lockwood, Samuel [F.], m. '34, 8; '35, 9.
- † Lockwood, William Augustus [F.], m. '68, ii. 17; '71, ii. 109; '76, 20; '77, 9; '78, 20; '84, 16; Reports, '76, 84; '78, 132; '79, 102; '85, 87; Sketch of Dr. Lynes, '80, 173.
- † Lockwood, William Ellison [N. H.], m. '86, 21; Criticism of water analysis, '86, 140.
- † Look, Frank Byron [M.], m. '86, 22; '89, 21; '90, 9, 26.
- † Loomis, Earle [H.], m. *Re.* 289; '30, 9; '37, 3.
- † Loomis, Francis Newton [N. H.], m. '84, 192; '85, 20.
- † Loomis, Hiram Holt [N. L.], m. '44, 11; '45, 14.
- † Loomis, Jacob Osmyn [H. and T. and N. H.], m. '33, 8; '45, 16; '54, 16; M.D., Bowdoin, 1832.
- † Loomis, William Ozias [H.], m. *Re.* 289; '33, 7, 8; M.D., Yale, 1831; died 1836.
- Lord, Austin, m. '44, 21.
- † Lord, Daniel [N. L.], m. *Re.* 16.
- † Lord, Elisha [W.], Corporator of the Conn. Med. Soc., *Re.* vi.; Memorialist of 1763 to the General Assembly of the Colony of Conn., *Re.* iv.; m. *Re.* 3, 9, 13, 21, 27, 33, 43; '35, 15; '73, 197; Sketch of, '62, 177.
- † Lord, Robert McCurdy [N. L.], m. '58, 16; '60, 5; '63, ii. 51; M.D., Coll. P. & S., N. Y., 1857; moved to Kansas City, Mo.
- Lord, Thomas, Colonial physician; sketch of, '51, 25; '59, 26.
- † Lord, William [N. L.], m. *Re.* 16; '33, 9.
- † Lounsbury, Dexter Louis [H.], m. '65, ii. 39; '67, ii. 124, 132.
- † Lounsbury, John [N. H.], m. '38, 8; M.D., Yale, 1837.
- † Low, Samuel B. [H.], m. '44, 13.

- † Lowe, Russell Walter [F.], m. '91, 31.
- † Lowrey, Chauncey [L.], m. *Re.* 14; '35, 16.
- † Lubowski, Ferdinand [H.], m. '51, 15.
- † Luby, John Francis [N. H.], m. '83, 35; '89, 8, 20.
- † Lunney, George [H.], m. '84, 19.
- † Lyman, Daniel [L. and W.], m. *Re.* 13, 159, 171.
- † Lyman, Edward Phelps [L.], m. '41, 7; '45, 5; '49, 3; '82, 25;
Biog. sketch of, '82, 176.
- † Lyman, Elijah [L.], m. *Re.* 17, 101, 111, 153, 165, 171, 177,
183, 189, 195; '87, 145.
- † Lyman, Norman [H. and L.], m. *Re.* 213, 239; '31, 3; '34, 3;
'37, 3; '39, 3; '44, 5; '48, 3; hon. deg. of M.D., '31, 5;
Biog. sketch of, '64, 55.
- † Lyman, Sidney Haskell [F. and L.], m. '38, 5; '47, 3; Biog.
sketch of, '77, 164.
- † Lynch, John Charles [F.], m. '87, 26; '89, 31; '91, 8.
- † Lynch, Peter Henry [F.], m. '84, 19.
- † Lynes, Jairus Francis [N. H.], m. '62, ii. 71; '63, ii. 120, 121;
'73, ii. 30.
- † Lynes, Samuel [F.], m. '58, 17; '66, ii. 77; '69, ii. 37; '71, ii.
113; '76, 6, 9; '78, 15; '79, 21; Biog. sketch of, '80, 173.
- † Lyon, Edward Ransom [F.], m. '87, 26; Biog. sketch of, '89,
266.
- † Lyon, Edwin Bradbury [H.], m. '68, ii. 16; '72, ii. 2, 3; '79,
10, 11, 16; '80, 8; '81, 16; '89, 31; '90, 8; '91, 7, 15, 38,
39; Sketch of Dr. Brandegee, '84, 166.
- † Lyon, Irving Whitall [H.], m. '65, ii. 49; '69, ii. 37, 39, 44;
'75, ii. 81; '76, 14, 18; '78, 29, 225, 226, 228; '79, 21;
'80, 22; '81, 15; '82, 21; '83, 28; '84, 15; '85, 17; '86,
18; '91, 42; Reports, '75, 341, 347; '77, 180; '78, 60;
'83, 57, 60; Sketch of Dr. Moody, '78, 201; Diphtheria,
'76, 93; Cardiac thrombosis, '78, 56; Hypertrophy of
spleen, '78, 59; Diabetes, '79, 69; Hiccough, '81, 74;
Pyonephrosis, '81, 75; Goitre, '82, 43; Pulmonary phthi-
sis, '75, 311.
- † Lyon, Lockwood [L.], m. *Re.* 18.
- † Lyon, Ransom Perry [F.], m. '51, 10; '53, 23; '60, 5; death
mentioned, '64, ii. 20.
- † Lyons, Andrew Wolff [F.], m. '81, 20; '86, 8; '91, 8, 21.

- * MACKIE, JOHN, hon. mem., *Re.* 261; M.D., Dartmouth, 1812; died 1833.
- † Mac Laren, William Stephenson [L.], 1891; M.D., Coll. P. & S., N. Y., 1889.
- † Madden, Edward George [N. H.], m. '88, 27.
- † Maher, Stephen John [N. H.], m. '89, 26.
- † Mailhouse, Max [N. H.], m. '77, 17; '78, 227; '79, 26, 179; '87, 8, 19, 20; '90, 7, 12, 18, 24, 26, 27; '91, 23; Report, '85, 78; '86, 194; Sketch of Dr. Hungerford, '89, 267.
- † Maine, Jonas Chapman [N. L. and T.], m. '35, 9; '37, 12.
- † Mains, Zadock [M.], m. *Re.* 14; '35, 16.
- † Malo, Napoleon [W.], m. '87, 26.
- † Malone, Edward [N. H.], m. '60, 16; M.D., Univ. N. Y., 1859; moved to Brooklyn, N. Y.
- † Maltbie, Charles B. [L.], m. '55, 3.
Mallett, Samuel, m. '67, ii. 111.
Manley, Thomas Henry, of N. Y., m. '89, 28, 32.
Mann, Benning, m. *Re.* 229.
- † Mann, Matthew Darbyshire [H.], m. '80, 23, 187; Essay, '81, 164; Vote of thanks to, '81, 22.
- † Manning, John Henry [N. L. and T.], m. '44, 15; '47, 3; '51, 3.
- † Manning, Luther [N. L. and W.], m. *Re.* 16, 71, 233, 239, 259; '32, 7; '62, 179; '83, 173; hon. deg. of M.D., *Re.* 277; died 1812.
- † Manning, Mason [N. L.], m. *Re.* 275, 289; '30, 3; '32, 7; '45, 5; '50, 3; '60, 5, 7; '61, ii. 23; '62, ii. 51, 53; '66, ii. 77; '67, ii. 109; '83, 34; hon. deg. of M.D., '40, 5; Biog. sketch of, '83, 173.
- † Manwarring, Robert Alexander [N. L.], m. '32, 9; '33, 7; '90, 20; '91, 32; hon. deg. of M.D., '44, 7; Biog. sketch of, '91, 304.
- * March, Alden, of Albany, N. Y.; hon. mem., '44, 7; died June 17, 1869.
- † Marcy, Erastus Edgerton [H.], m. '38, 8; M.D., Jefferson, 1837; removed to New York, 1847.
- † Marcy, Lorenzo [W.], m. '35, 10; '39, 3; '44, 5; '47, 3; '51, 3; hon. deg. of M.D., '39, 5; Biog. sketch of, '76, 141.
- † Marcy, Robert Adrian [L.], m. '82, 27; '86, 9.
- * Marcy, Samuel Sumner, hon. deg. of M.D., '42, 5; died 1882.
- † Markham, George Everett [H.], m. '83, 35; '89, 8, 15, 22.

- † Marsden, William Robb [N. H.], '85, 222; removed to Utica, N. Y.
- † Marsh, Arthur Washburn [N. H.], 1891, Westville; M.D., Univ. Vt., 1882.
- † Marsh, Jonathan, Jr. [N. L.], m. *Re.* 16; Sketch of, '62, 177.
- † Marsh, Jonathan, Sr. [N. L.]. Colonial physician, m. '51, 47; Sketch of, '62, 177.
- † Marsh, William [L.], m. '31, 8.
- † Marshall, Elisha Gaylord [H.], m. '33, 8; M.D., Yale, 1831; died 1855.
- † Martin, Jonathan Walter [N. L.], m. '75, ii. 83; M.D., Univ. Vt., 1869.
- † Martin, Thomas Francis [F.], m. '79, 27.
- † Marvin, Elihu [N. L.]. Colonial physician, m. *Re.* 4, 16, 21, 34-45; Sketch of, '62, 173.
- † Mason, Jarvis King [H.], m. '67, ii. 124; '74, ii. 50; '75, ii. 77; '88, 8, 29; '89, 18; Sketch of Dr. Rising, '84, 163, of Dr. Mather, '89, 261; Fungus hematodes, '73, 350; Essay, '88, 118.
- † Mason, William B. [W.], m. *Re.* 18.
- † Mason, William Hail [N. L.], m. '79, 27.
- † Mather, Augustus [M.], m. *Re.* 14; '35, 16.
- † Mather, Charles [H.], Corporator of the Conn. Med. Soc., *Re.* vi.; m. *Re.* 12, 27; '35, 15.
- † Mather, Charles, Jr. [H.] m. *Re.* 12; '35, 15.
Mather, Eleazer, m. *Re.* v.; Member of examining committee for army surgeons in Revolutionary war, '51, 49.
- † Mather, Elisha [M.], *Re.* 14, 101, 119; Biog sketch of, '77, 154.
- † Mather, Samuel [N. L.]. Colonial physician, m. *Re.* 3, 9, 15, 61, 102, 111, 147, 153, 159; '35, 15; '51, 26; '61, 134.
Mather, Timothy, Colonial physician, m. '61, 135.
- † Mather, Ulysses [M.], m. *Re.* 290; '30, 11; died 1832.
- † Mather, William Henry [H. and F.], m. '70, ii. 93; '72, ii. 7; '76, 19; '78, 68; '84, 4, 15; Biog. sketch of, '89, 261.
- † Matteson, John [W.], m. '70, ii. 93.
- † Matthews, Henry Willy Edmund [N. H.], m. '50, 12, 23; '59, 6; '67, ii. 109, 113, 114; '68, ii. 1, 2, 4, 8, 9, 12; Memoir of, '75, 427.
- † Matthewson, Earl [N. L.], m. '84, 19.

- † Matthewson, Rufus Wellington [N. L. and M.], m. '38, 9; '47, 3; '63, ii. 82, 85; '68, ii. 2, 4; '71, ii. 110, 111; '76, 6, 10; '79, 9, 28; '80, 9; '83, 5, 11, 28, 45; '86, 19; '88, 9; Essay, '64, 20; Reports, '73, 186; '74, 234; '79, 121; '85, 91; '86, 203, 204; Diphtheria, '65, 132; Sketches of Middlesex physicians, '77, 137; '82, 144; Essay, '84, 57.
- † Maxwell, Thomas Meredith [L.], m. '84, 19.
Maxwell, William, of N. Y., m. '82, 16, 185.
- † May, Austin Ela [F. and N. H.], m. '80, 24; '90, 32.
- † May, Calvin Sloane [M.], m. '74, ii. 54, 66; '77, 21; Puerperal insanity, '77, 104.
- † May, Jacob [F.], m. '84, 19; '88, 8.
- † Mayberry, Franklin Hayden [H.], m. '90, 31.
- † Mayer, Nathan [H.], m. '63, ii. 121, 122; '66, ii. 90; '78, 11, 12, 19; '79, 10, 28; Yellow fever, '79, 132; Sketch of Dr. Chamberlain, '84, 204.
- † Maynard, Samuel Erskine [N. L.], m. '48, 12; '51, 3; '65, ii. 50; died 1882.
- † McAlpin, Samuel [L.], 1832.
- † McCabe, Edward Michael [N. H.], October, 1891; New Haven.
- † McCarty, Charles Barney [N. H.], m. *Re.* 289; '30, 9; '45, 13; M.D., Yale, 1826; death mentioned, '60, 19.
- * McClellan, George, hon. mem., *Re.* 291; died 1847.
McClellan, Samuel, m. '63, ii. 119, 122.
McClure, David, Colonial physician, sketch of, '70, 442.
- * McCollum, William, m. '68, ii. 3, 7; hon. mem., '69, ii. 41; died 1883.
- † McComb, Joseph [L.], m. '36, 10.
McCorkle, William Strickler, m. '44, 21.
- † McCoy, Howe L. [F.], m. '35, 9.
- † McCray, Eleazer [T.], m. *Re.* 147, 159, 166, 172; Sketch of, '70, 431.
- † McCray, Lathrop [M.], m. '30, 11.
- † McCray, Warren [T.], m. '32, 11.
- † McDonald, Edward Walsh [N. H.], m. '75, ii. 83.
- † McEwin, Robert Charles [F.], m. '60, 17; '61, ii. 23; '63, ii. 123; M.D., Coll. P. & S., N. Y., 1856.
- McFarlan, Malcom, m. '65, ii. 58.
- † McGaughey, James David [N. H.], m. '72, ii. 54; '80, 22; '84, 4, Sketch of Dr. Harrison, '87, 165.

- McGowen, Charles Edward, m. '80, 194.
- † McGregor, Daniel [H. and N. H.], m. *Re.* 208, 214; Member, 1821; Hamden.
- † McGregor, John [W.], m. '54, 17; '61, ii. 24; '66, ii. 78.
- † McGuire, Bernard Dennis [M.], m. '74, ii. 55; Biog. sketch of, '78, 218.
- † McIntosh, Harrison [H. and T.], '42, 8; m. '46, 16.
- † McIntosh, Lucius Wolcott [H.], m. '35, 8; '71, ii. 123.
- † McKnight, Everett James [H.], m. '79, 26; '83, 4; '89, 7, 15, 22, 31; '90, 8, 29; '91, 20, 22, 27, 39; Carbuncles, '89, 179; Sketch of Dr. Barstow, '90, 279.
- † McLean, John Adams [F.], m. *Re.* 275, 290, '55, 3; '57, 3; '59, 17.
- † McLean, John Wilson [F.], m. '59, 17; '78, 222.
McLean, Lorenzo Dow, m. '65, ii. 39; M.D., Univ. N. Y., 1866.
McLean, Thomas Neal, m. '71, ii. 127.
- † McNamara, James Hughes [H.], m. '89, 26.
- * McNaughton, James, m. '68, ii. 3; hon. mem., '58, 8; died June 12, 1874.
- † McNeil Rollin [N. H.], m. '62, ii. 71; October, 1891; New Haven.
- † Mead, Amos [F.], corporator of the Conn. Med. Soc., *Re.* vi., m. *Re.* 3, 15; '35, 16; '73, 199; member of exam. com. for army surgeons in Revolutionary War, '51, 49.
- † Mead, Darius [F.], m. '34, 8.
- † Mead, Eugene Henry [H. and F.], m. '81, 19; '85, 225; moved to Orondo, Wash.
- † Mead, Shadrach [F.], m. *Re.* 15, 184.
- † Mead, Sylvester [F.], m. '33, 10; dismissed '51, 6.
- † Meeks, Edwin Joseph [F.], 1891; Stamford; M.D., Bellevue; 1890.
- † Meeks, Harold Albert [N. H.], m. '91, 31; *Weeks* in the Proceedings.
- † Meers, Edward Solomon [N. H.], m. '75, ii. 98; '76, 12
- † Meers, John Daggett [N. H.], m. *Re.* 289; Biog. sketch of, '78, 208; *Mears* and *Miers* in the Proceedings.
- Megrath, William A., of N. H., m. '91, 34, 35.
- Meigs, Joseph Josiah, m. '45, 9; M.D., Yale, 1846; died 1887.

- † Meigs, Phineas [L.], m. *Re.* 4, 14, 53, 62.
- † Mercer, Archibald [N. L.], m. *Re.* 223, 239, 253; '32, 3; hon. deg. of M.D., *Re.* 268; death mentioned, '51, 19.
- † Merrill, Albert Eugene [H.], m. '66, ii. 102; '67, ii. 124.
Merrill, Charles Griswold Gurley, m. '63, ii. 106.
- † Merrill, Michael [L.], m. *Re.* 14; '35, 16.
- † Merrick, Caleb [T.], m. *Re.* 14; '35, 16.
- † Merriman, Eli Titus [H.], m. '33, 8.
Merriman, Joel Bacon, m. '35, 5.
- † Merriman, Titus [H.], m. *Re.* 12; '35, 15.
- † Merwin, Augustus [F.] m. *Re.* 15, 185.
- † Merwin, David [N. H.], m. *Re.* 137, 143, 147.
Michaelian, Gregory, m. '77, 179.
- † Middlebrook, Elijah [F.], m. *Re.* 223, 233, 239, 245, 253, 259, 267, 275; '31, 3; '32, 7; '33, 7; '44, 5; '48, 3; '49, 3; '50, 3; Treas'r, '34, 3; '35, 3; '36, 3; Vice Pres't, '37, 3; '38, 3; '39, 3; '40, 3; Pres't, '41, 6; '42, 4; M.D., Coll. P. & S., N. Y., 1813; death mentioned, '60, 19.
- † Middlebrook, Elijah Beach [F.], m. '35, 9; '37, 3; '42, 3; '44, 5.
- † Middlebrook, Stephen [F.], m. *Re.* 15; died Dec. 18, 1819; Aet. 64.
- † Middlebrook, Stephen, 2d [F.], m. *Re.* 290; '31, 3; '47, 3; M.D., Coll. P. & S., N. Y., 1822; died 1850.
- † Miller, Gaylord Brown [L.], m. ('54, 17, V. Miller in the Proceedings) '55, 20; '56, 3; '59, 6; '61, ii. 24, 25; moved to Grand Rapids. Mich.
- † Miller, George Root [H.], m. '86, 21.
- † Miller, Phineas [F.], corporator of the Conn. Med. Soc., *Re.* vi.; m. *Re.* 15, 88.
- † Miller, Phineas Timothy [H. and N. H.], m. '34, 6; '36, 8; Rocky Hill, 1838; M.D., Yale, 1835; died 1850.
- † Mills, Oliver, m. *Re.* 79.
- † Miner, Cyrus [N. L.], m. '45, 9; '47, 9.
- † Miner, Garry Hinman [L.], m. *Re.* 290; '31, 8; '33, 7; '76, 6; '81, 9; '83, 34; Sketch of Dr. Webb, '76, 143; Biog. sketch of '83, 178.
- † Miner, John Owen [N. L.], m. *Re.* 16, 83, 87, 91, 95, 111, 117, 119, 123, 137, 143, 147, 153, 159, 165, 171, 177, 183,

- 189, 195, 201, 213, 223, 229, 233, 253, 275, 285; '37, 3;
hon. deg. of M.D., *Re.* 190; death mentioned, '52, 17.
- † Miner, Orrin E. [N. L.]. m. '60, 5; '64, ii. 2; '67, 109; '68, ii. 1; honorably dismissed, '69, ii. 39; M.D., Univ. N. Y., 1859.
- † Miner, Reuben [N. L.]. m. '33, 9.
- † Miner, Thomas [N. L. and M.], m. *Re.* 165, 171, 177, 189, 201, 207, 213, 223, 229, 233, 239, 245, 253, 259, 267, 285; '30, 4, 5; '31, 3; '38, 3; hon. deg. of M.D., *Re.* 208; Dissertation, *Re.* 219; Vice-Pres't, '32, 6; '33, 6; Pres't, '34, 3; '35, 3; '36, 3; Address, '37, 3; Biog. sketch of, '41, 5; '82, 145.
- † Miner, Thomas, Jr. [M. and H.], m. '34, 9; '37, 3; '39, 3; '41, 3; '49, 3; '58, 5.
- † Miner, William W. [N. L.], m. *Re.* 239, 267, 289; '34, 3; '35, 3; '38, 3; '48, 3; hon. deg. of M.D., '39, 5; Name stricken from list of members, '67, ii. 119; died 1875.
- Minor, Thomas Taylor, m. '67, ii. 133.
- Minor, William Chester, m. '56, 9; '63, ii. 106.
- * Mitchell, Henry, hon. mem., *Re.* 277; died Jan. 12, 1856.
- * Mitchell, Samuel Latham, m. *Re.* 268; hon. mem., *Re.* 261; died Sept. 7, 1831.
- Mitchell, William Anderson, m. '65, ii. 58.
- Moffat, Joseph, m. '70, 442.
- Monroe, Francis Le Baron of Mass., m. '76, 14.
- † Monson, Alfred Shepard [N. H.], m. *Re.* 267, 275; '31, 3; '34, 3; M.D., Univ. Pa., 1819; died 1870.
- † Moody, Anson [N. H.], m. '37, 9; '40, 3; '46, 3; '54, 3; hon. deg. of M.D., '40, 5; Biog. sketch of, '61, 125.
- Moody, Charles W., m. '78, 16.
- † Moody, George Anson [H.], m. '42, 5; '44, 21; '46, 12; '52, 3; '58, 5; '63, ii. 81; '64, ii. 1; Biog. sketch of, '78, 201.
- † Moody, John Henry [M.], m. '86, 22.
- † Moody, John Shute [H.]. m. '51, 10; '52, 13, 21; '53, 15.
- † Moody, Mary Blair [N. H.]. m. '88, 26.
- † Moore, Benjamin [N. L.], m. *Re.* 16; '62, 180.
- † Moore, Chauncey [M.]. m. *Re.* 17.
- † Moore, Daniel Hartshorne [N. H.], m. '32, 8; death mentioned, '50, 15.

* Moore, Edward Mott, m. '88, 25; hon. mem., '89, 20; resides in Rochester, N. Y.

† Morasse, Louis Ovide [W.], m. '89, 27; '99, 309.

† Morgan, Consider [H.], m. *Re.* 79; died 1802.

† Morgan, Dwell [H.], m. *Re.* 12, 195, 213, 289; '30, 8.

† Morgan, Edward Brainerd [F.], m. '85, 21; moved to Paterson, N. J.

Morgan, Charles Ferris, m. '65, ii. 39; '66, ii. 102.

† Morgan, Frederick [N. L. and M. and T.], m. *Re.* 233, 253; '30, 5; '71, ii. 109; Biog. sketch of, '78, 211.

† Morgan, James [N. L.], m. *Re.* 289; '31, 3; '35, 3; '41, 3; Biog. sketch of, '60, 65.

† Morgan, John [M.], m. '69, ii. 58, 136.

Morgan, Samuel Ernest, m. '75, ii. 99.

† Morgan, Warren [N. L.], m. '32, 9.

† Morgan, William Denison [H.], m. '80, 23.

† Morgan, William Henry [H.], m. *Re.* 289; '31, 3; M.D., Yale, 1820; died 1839.

† Morrell, Frederick Augustus [W.], m. '87, 26; '88, 9, 18; Neurasthenia, '89, 173.

† Morris, John Edward [N. H.], m. '36, 8; died 1850.

Morris, Moses, Memorialist of 1763 to the General Assembly of the Colony of Conn., *Re.* iv.; m. '51, 51.

† Morrissey, John Joseph [H.], m. '85, 20.

† Morrison, Albert [T. and H.], m. '48, 14; '57, 3; '59, 5; Sketch of Dr. Pierson, '61, 133; Biog. sketch of, '74, 281.

Morrison, Norman, Colonial physician and army surgeon, sketch of, '51, 43; m. '62, 177.

† Morse, Charles Thomas [W.], m. *Re.* 290; '33, 7, 10.

† Morse, Edgar Tiffany [W.], m. '79, 27; Sketch of Dr. Hovey, '79, 168; of Dr. Lathrop, '80, 178.

† Morse, Thomas [W.], m. *Re.* 123, 133, 137, 143, 147, 153; '76, 141.

Morse, William Frederick, m. '43, 6.

† Morton, James H. [H.], m. '30, 9; '33, 8.

† Mosely, Abner [H.], m. *Re.* 12, 61, 137, 154; died 1811.

† Moseley, Daniel F. [W.], m. '30, 10; M.D., Bowdoin, 1829.

† Moseley, Mason [H.], m. *Re.* 71.

† Moseley, Thomas [M.], m. *Re.* 3, 4, 9, 14, 21, 27, 28, 33, 43, 53, 57, 61, 62, 67, 72, 83, 91, 96, 107, 111, 117; hon.

deg. of M.D., *Re.* 34; Vice-Pres't, *Re.* 87, 95; Pres't, *Re.* 101; Biog. sketch of, '77, 153.

* Mott, Valentine; hon. mem., *Re.* 286; died April 26, 1865.

† Moulton, Charles [W.], m. *Re.* 201, 233; '83, 181.

Mundé Paul Fortunatus, of N. Y.; m. '81, 22.

† Munger, Carl Eugene [N. H.], m. '87, 25; '88, 19, 20.

† Munger, Elisha [N. L.], m. '76, 153; '77, 18; '89, 29.

† Munger, Walter Seward [L.], m. '53, 9; '55, 25; '67, ii. 110; '69, ii. 38; '72, ii. 2; '74, ii. 50, 52; '77, 9; '81, 8; '82, 8, 23; '84, 5; '85, 9, 23; '86, 9; '88, 8; Essay, '86, 87.

† Munson, Byron Wooster [F.] m. '69, ii. 58; '80, 24; '84, 16; '88, 8, 17; '91, 8, 20, 21, 27, 41; Sketch of Dr. Abernathy, '85, 216; Rheumatism, '91, 211.

† Munson, Elijah [N. H.], m. *Re.* 12, 27, 30, 45, 61, 71, 84.

† Munson, Eneas [N. H.], corporator of the Conn. Med. Soc., *Re.* vi.; m. *Re.* 3, 4, 9, 12, 34, 44, 57, 62, 67, 71, 84, 95, 96; '35, 15; '51, 58; '73, 193, 194, 195, 199, 201; member of exam. com for army surgeons in Revolutionary War, '51, 49; hon. deg. of M.D., *Re.* 30; Vice-Pres't, *Re.* 3, 21; Pres't, *Re.* 27, 33, 43, 53, 61, 71, 83; Biog. sketch of, '51, 58.

† Munson, Eneas, Jr [N. H.], m. *Re.* 12; '35, 15; '51, 58; '73, 199.

† Munson, Jared [N. L.], m. *Re.* 280; '30, 9; Woodbridge and Lyme.

† Munson, Walter [N. H.], m. *Re.* 12; '35, 15; died 1802.

† Murphy, Michael Daniel [M.], m. '86, 22; '90, 9.

† Murray, Charles Stewart [F.], m. '85, 21.

* Mussey, Reuben Dimond, hon. mem., *Re.* 286; died June 21, 1866.

† NASH, David Hull [F.], m. '34, 8; '38, 3; '59, 5; '61, ii. 23; '64, ii. 2; '77, 14.

† Nash, William Burr [F.], m. '50, 13; '53, 17; hon. deg. of M.D., '52, 8; died 1872.

Neal, Charles Augustus, m. '53, 23.

† Nelson, Abiel Ward [N. L.], m. '65, ii. 50; '66, ii. 77; '69, ii. 37; '70, ii. 77; '72, ii. 2, 4, 8; '73, 206; '73, ii. 25, 31; '74, ii. 49; '76, 6; '80, 7; '86, 8, 18, 62; '87, 8, 20, 111; '89, 81; Sketch of Dr. Coates, '81, 220; of Dr. Manwaring, '91, 304.

- † Nelson, John DeWitt [N. L.], m. '78, 22; '79, 9, 10; '80, 7, 8; Pneumonia, '80, 47.
- † Nesbitt, Samuel [N. H.], m. '73, 192, 193.
- † Neville, John James Martin [N. H.], m. '79, 26; Sketch of Dr. Dougherty, '79, 165; expelled, '87, 22.
- † Newcomb, James Jerome [L.], m. '75, ii. 83, 99; '76, 6; '80, 9, 16, 17; '82, 34; '83, 17.
- † Newell, Mark [H.], m. *Re.* 12; '35, 15.
Newman, Robert, of N. Y., m. '70, ii. 78, 80; '71, ii. 116; '72, ii. 7; '73, ii. 31.
- † Newton, Cyrus Brownlie [T.], m. '54, 11; '56, 23; '64, ii. 2; '67, ii. 110; '76, 6, 23; '78, 11; '82, 8, 22; '86, 9, 19; '88, 18, 29; '89, 9, 30; '90, 26; '91, 9, 15, 22; Reports, '76, 91; '84, 33; '90, 272; '91, 287; Sketch of Dr. Wood, '75, 423; of Dr. Blodgett, '82, 180; of Dr. Clark, '89, 250; Essay, '81, 153; Plaster splints, '86, 208; Pneumonia, '88, 69; Essay, '89, 107; vote of thanks to, '81, 22; '89, 30; Vice-president, '91, 20.
- † Newton, Matthew Turner [H.], m. '51, 23; '63, ii. 121; '87, 26; '90, 8.
- † Newton, Sterling Crosby [H.], m. '79, 26; S. B. Newton in the Proceedings.
- † Nichols, Edward Payson [W.], m. '89, 288; '91, 9, 15, 20.
- † Nickerson, Nehemiah [N. H.], m. '55, 9; '63, ii. 122; '74, ii. 49, 52; '79, 10, 11, 17; '80, 8, 14, 15, 21, 22; '81, 16; '82, 8; '85, 8; '86, 19; '87, 20; '91, 18; Sketch of Dr. Fitch, '81, 213.
- † Nicoll, John [N. H.], m. '54, 16, 23; '57, 3; '69, ii. 37; '77, 9, 10, 12; Sketch of Dr. Bulkley, '81, 213.
- † Niles, Noah [H.], m. *Re.* 79.
- † Noble, Gideon [M. and H.], m. *Re.* 15; '35, 16; *Nobles* in the Proceedings; practiced in Middletown, 1791 to 1802; removed to S. Glastonbury; died 1807.
- † Noble, Henry Smith [M.] m. '84, 20.
- † Nolan, Robert George [F.], m. '78, 22.
- † Nooney, Edwin DeWitt [F.], m. '78, 22; Report, '85, 89; expelled, '87, 22.
- † North, Alfred [N. H.], m. '65, ii. 50; '68, ii. 1, 4, 5; '73, ii. 26; '81, 16; '87, 20; '90, 8, 12, 20; Typhlitis, '90, 223.
- † North, Burritt Beach [L. and H.], m. *Re.* 290; '32, 10; '35, 3; '40, 3; '48, 3; '58, 6, 8; '63, ii. 96; '65, ii. 36, 37, 43;

- '70, ii. 78; '71, ii. 114; '73, ii. 28; '75, ii. 83; '76, 5; Biog. sketch of, '77, 162.
- † North, Elisha [N. L.], m. *Re.* 178, 183, 189, 195, 201, 213, 223, 224; '43, 6; hon. deg. of M.D., *Re.* 179; Memoir of, '87, 135.
- † North, Erasmus Darwin [N. H. and M.], m. '33, 8; '34, 9; M.D., Yale, 1833; died 1858.
- † North, James Howard [L.], m. '74, ii. 55; '76, 6; '86, 9, 62; '89, 7; Report, '86, 203; Sketch of Dr. Averill, '88, 218.
- North, Joseph, m. '77, 162; '87, 136.
- † North, Loomis [L.], m. '37, 11; '47, 3; '55, 17; death mentioned, '57, 21.
- † North, Milo Linus [H.], m. *Re.* 289; '34, 3; '36, 3; hon. deg. of M.D., '34, 6.
- North, Philo M., m. *Re.* 196.
- † North, Simeon [L.], m. '73, 197.
- North, William Burritt, m. '63, ii. 106, 123.
- † Northrop, Daniel Waldo [F.], m. '31, 7; '53, 17; M.D., Yale 1825; died 1872.
- † Northrop, Joel [N. H.], m. *Re.* 12; expelled, *Re.* 112.
- † Northrop, John N. [N. H.], m. '38, 9; '40, 9.
- Norton, Elias, m. '77, 154.
- † Norton, Gold G. [N. H.], m. *Re.* 13; '35, 16.
- † Norton, Harvey [N. H.], m. *Re.* 289; '30, 9.
- Norton, John Cole, m. '33, 5; M.D., Yale, 1836; died 1851.
- † Noyes, Burr [M.], m. *Re.* 290; M.D., Yale, 1827; died 1830.
- † Noyes, James [N. L.], m. *Re.* 16; died 1844.
- † Noyes, John [N. L.], m. *Re.* 16, 53, 83, 84, 101, 111; death mentioned, '55, 21.
- † Noyes, Richard [N. L.], m. *Re.* 289; Lyme; died 1873.
- † Noyes, Samuel Sherwood [F.], m. '34, 8; '41, 3; '45, 5; '51, 3; '58, 5; '62, ii. 52, 56; '64, ii. 2; '69, ii. 37, 39, 44; hon. deg. of M.D., '45, 7; Biog. sketch of, '77, 160.
- † Noyes, Selden Walkley [M.], m. '70, ii. 94; '72, ii. 2.
- Noyes, Theodore Richards, m. '68, ii. 23.
- † Nye, Elisha Bourne [M.], m. '37, 12; '41, 3; '47, 3; '53, 3; '56, 3; '59, 6, 7; '64, ii. 2, 6; '67, ii. 114; '68, ii. 2, 9; '69, ii. 38, 44; '71, ii. 113; '73, ii. 26; '75, ii. 83; '76, 9; '77, 8; '78, 11, 12, 16, 20; '82, 9; '84, 3; Specifics, '65, 120; Sketch of Dr. Casey, '70, 403, of Dr. Hutchin-

- son, '82, 177, of Dr. Maguire, '78, 218; Vice-Pres't, '82, 22; Pres't, '83, 28; Address to Fellows, '84, 5; Address to Convention, '84, 20; Biog. sketch of, '89, 245.
- † Oakes, Henry Augustus [N. H.], m. '81, 19; died in Hartford, July 3, 1885, æt. 33.
- † Ober, George Eugene [F.], '91, Bridgeport; M.D., Univ. Vt., 1890.
- † Oberly, Aaron Shimer [N. H.], m. '61, ii. 36.
- † O'Connor, Matthew Charles [N. H.], m. '79, 26; '85, 17; '86, 8; '87, 20.
- † O'Farrell, Thomas [M. and H.], m. '73, ii. 30, 43; Memoir of, '74, 291.
- † O'Flaherty, John [H.], m. '66, ii. 90; '75, ii. 82; '76, 6; '77, 9, 10; Hydrophobia, '78, 50.
- † O'Hara, Bernard Augustine [N. H.], m. '88, 26.
- O'Herron, Terence Mahoney; m. '71, ii. 113.
- † Ohnesorg, Gustave [F.], m. '68, ii. 17; '70, ii. 85; M.D., Berlin, 1862; died 1882.
- † Olcott, Austin [M.], *Re.* m. 102, 160, 166, 172, 213; hon. deg. of M.D., *Re.* 241; Biog. sketch of, '82, 144.
- † Olcott, George [H.], m. *Re.* 12; '35, 15; Biog. sketch of, '82, 144.
- † Olcott, William [N. H.], m. *Re.* 289.
- O'Leary, Charles, m. '83, 41; '88, 28.
- † Olin, Frank Henry [W.], m. '82, 26.
- Olmstead, Francis Allyn; m. '44, 21; died July 19, 1844.
- † Olmstead, James [N. H. and M.], m. '75, ii. 98; '76, 12; '82, 9, 34; '84, 5, 9; '87, 20; '88, 8; '89, 21; Report, '88, 203; Mortality of the insane, '79, 122.
- † Olmstead, Joseph [H.], m. '46, 12; '56, 3; Sketch of Dr. Spaulding, '64, 66; Biog. sketch of, '65, 156.
- † Olmstead, Henry King [H.], m. '57, 17; '66, ii. 105; honorably dismissed, '67, ii. 112.
- † O'Neil, James C. [N. H.], m. '58, 16; M.D., Univ. N. Y., 1857.
- † O'Reilly, James [N. H.], m. '47, 10.
- † Orton, John Jackson [L.], m. '71, ii. 135; J. G. Orton in the Proceedings.
- † Orton, Samuel [L.], m. *Re.* 3, 14, 21, 43, 61, 83; '35, 15.
- † Osborn, Eliada [L.], m. '37, 11.
- † Osborn, George Wakeman [F.], m. '88, 27.

- † Osborn, John [M.], corporator of the Conn. Med. Soc., *Re.* vi.;
m. *Re.* 3, 4, 21, 28, 39, 43, 45, 50, 53, 57; '35, 15;
Treasurer, *Re.* 3, 27, 33; Biog. sketch of, '77, 141; also
Osbourne and *Osborne* in the Proceedings.
- Osborn, John 2d, m. '51, 44; Sketch of, '77, 142.
- † Osborn, Moses Willis [H.], m. '40, 8; died 1863.
- Osborn, Samuel, m. '77, 145.
- Osborne, Charles Roe, m. '57, 25.
- † Osborne, Curtiss Hinman [F.], m. '77, 179; '78, 22; '86, 8.
- † Osborne, Oliver Thomas [N. H.], m. '85, 18; '86, 21; '89, 21;
'90, 7, 8, 45, 46; Diphtheria, '90, 159.
- † Osgood, Charles [N. L.], m. '71, ii. 133.
- † Osgood, Erastus [N. L.], m. '32, 9; death mentioned, '68,
ii. 19.
- † O'Sullivan, Thomas Jefferson [N. H.], m. '80, 24.
- † Otis, Henry Sparwood [H.], m. '86, 19; '84, 19; '87, 29.
- † Otis, Samuel Dickenson [N. H.], m. '85, 20; '91, 21.
- * Ouyiere, Felix Pascalis; delivers dissertation upon Antimony,
Re. 33; vote of thanks to, for "ingenious answer to
prize question," *Re.* 39; corresponding member, *Re.* 49;
died July 27, 1833.
- Overand, David Gracey, m. '65, ii. 58.
- † Overton, Alexander Hamilton [W.], m. *Re.* 290.
- † PACKARD, George Byron [H.], m. '80, 24; '82, 23; '84, 22; '85,
8, 10; '87, 20; Pott's disease, '84, 64; resides at Colo-
rado Springs, Col.
- † Paddock, Lewis Sloat [N. L.], m. '57, 18; '58, 5; '61, ii. 23,
25, 26; '66, ii. 77; '67, ii. 109, 114, 134; '71, ii. 109;
'75, ii. 78, 81; '76, 6, 20; '78, 11, 12, 13, 16, 20, 29;
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19, 24; '90, 8, 11, 26; '91, 37; Reports, '75, 372; '76,
73, 75; '77, 84; '78, 109; '79, 87; '80, 43; '82, 62; '83,
70; '84, 44; '91, 141; Sketch of Dr. Morgan, '60, 65;
of Dr. Carleton, '87, 181; Surgical diseases of the
rectum, '58, 99; Puerperal convulsions, '78, 171.
- † Page, Benjamin Maltby [N. H.], m. '62, ii. 55; '66, ii. 91.
- † Page, Charles Ithamar [F.], m. '91, 31.
- † Page, Charles Whitney [H.], m. '78, 22; '87, 8; removed to
Danvers, Mass.
- Page, Henry Augustus, m. '65, ii. 58.

- † Painter, Henry Wheeler [N. H.], m. '57, 18; Poem, '59, 67; expelled, '68, ii. 6.
- † Palma de Vigo de Cortez, C. A. [H.], m. '71, ii. 123; M.D., Univ. Salvador, 1868.
- † Palmer, George E. [N. L.], m. *Re.* 289; '30, 3; '31, 3; '33, 7; '48, 3; '53, 3; '57, 3; '58, 5; '63, ii. 81; '64, ii. 2, 3, 8; '65, ii. 35; '67, ii. 109; '68, ii. 1; Biog. sketch of, '69, 299.
- † Palmer, Joseph [W.], m. *Re.* 13, 43, 61, 101, 112, 119, 133, 138, 183, 195, 259; hon. deg. of M.D., *Re.* 190.
- † Palmer, Joseph, Jr. [W.], m. *Re.* 123, 137, 143, 147, 153, 160, 165, 178, 183, 189, 207, 213, 223, 245, 267; '43, 3; '48, 3; '52, 3; '60, 6; '62, ii. 52, 54, 55, 56; '64, ii. 2; '65, ii. 36, 38, 41; '66, ii. 78; hon. deg. of M.D., *Re.* 216; Treas'r, *Re.* 285; '30, 3; '31, 2; '32, 6; '33, 6.
- Palmer, Luther A., m. '38, 5.
- † Palmer, Virgil Maro [W.], m. '31, 7; '35, 3; died 1839.
- Palmer, William Henry, m. '88, 28.
- † Pardee, Jared Whitfield [H.], m. *Re.* 202, 289; M.D., Yale, 1818; died 1867.
- † Pardee, Moses Bouten [F.], m. '57, 3; '59, 5; '64, ii. 2, 3, 6; '65, ii. 35; '68, ii. 1; '71, ii. 109, 114; '78, 20, 21; '79, 13, 22; M.D., Albany, 1855.
- † Park, Charles Edwin [N.H.], m. '82, 26, 200; '85, 17; '87, 17.
- † Park, Edwin Avery [N. H.], m. '47, 10; '52, 3; Biog. sketch of, '79, 163.
- † Parker, Chester [W.], m. *Re.* 290.
- † Parker, Joseph [T.], m. *Re.* 3, 9, 15, 33, 39, 61, 62, 67, 102; '35, 15.
- † Parker, Julian Newell [T. and H.], m. '68, ii. 23; '72, ii. 2; '79, 10; '80, 8; Sketch of Dr. Brigham, '72, 151; of Dr. Watkins, '91, 316.
- † Parker, Lyman [N. H.], m. *Re.* 253, 285; '33, 7; '39, 3; '42, 3; '50, 12; hon. deg. of M.D., '32, 5; death mentioned, '62, ii. 67.
- † Parker, Theodore Raymond [W.], m. '79, 180; '80, 193; '87, 8, 22; '89, 29; '91, 8.
- * Parker, Willard, hon. mem., '41, 8; m. '84, 18; died April 25, 1884.
- † Parker, William Thornton [N. L.], m. '76, 12.
- † Parkhurst, Gurdon R. [N. L.], m. '42, 9.

- Parkinson, George, m. '65, ii. 57.
- † Parkis, Chester [W. and M.], m. '31, 7; '32, 10.
- † Parkis, Gurdon R. [M.], m. '32, 10.
- † Parmele, George Luther [H.], m. '78, 22; '82, 34; vote of thanks to, '83, 42; Oral surgery, '83, 105.
- † Parrack, Uriah [F.], m. *Re.* 290; '30, 10; died 1845.
- † Parsons, Edward Field [H.], m. '65, ii. 49; '69, ii. 37; '70, ii. 77; '86, 7, 13; '88, 15, 24, 29; '90, 40, 42, 43, 44; '91, 21, 39, 41, 45; Hydrophobia, '77, 71; Essay, '88, 55, 174.
- † Parsons, Ezekiel W. [N. L.], m. '32, 9; '74, ii. 63.
- Parsons, George Benjamin, m. '51, 10; '52, 21.
- † Parsons, Homer Lee [N. H.], m. '57, 18, 25.
- † Parsons, Partridge [L.], m. *Re.* 14; '35, 16.
- * Parsons, Usher, hon. mem., '58, 8; m. '62, ii. 53; died 1868.
- * Pascalis, Felix. See Felix Pascalis Ouyiere.
- † Patterson, William Halstead [F.], m. '35, 9.
- † Payne, Elisha R. [W.], m. '58, 17.
- † Peabody, Jeremiah Nathaniel [N. L.], m. '32, 9; M.D., Yale, 1831; died 1872.
- † Peabody, Joseph [N. L.], m. *Re.* 290; '30, 3; M.D., Yale, 1821; died 1853.
- Pease, Calvin, m. '75, 426.
- † Pease, Levi Smith [H.], m. '55, 17; Sanitary report, '56, 31.
- Pease, Loren Howard, '63, ii. 121. Loren *M.* in the Proceedings.
- † Pease, Seth [L.], m. '51, 3, 18; died 1892.
- † Peck, Anthony [N. L.], m. '78, 22; '80, 17; '81, 8; '83, 17; '87, 8, 13; '91, 8, 15; Reports, '79, 89; '81, 102.
- † Peck, Daniel [T.], m. *Re.* 160, 165, 171, 189, 195, 201, 207.
- Peck, George Bachelor, m. '72, ii. 19.
- † Peck, Ozias Willard [N. H.], m. '57, 18, 25; '69, ii. 37; '70, ii. 77, 79, 80, 84.
- † Peck, Walter [L.], m. '33, 10.
- † Peckham, Fenner Harris [W.], m. '43, 11; '46, 3; '49, 3; '66, ii. 102; '71, ii. 110, 116.
- † Peckham, Hazael [W.], m. *Re.* 290; '74, 274.
- † Peckham, Lucy Creemer [N. H.], m. '86, 21; '89, 31; Lucy *M. Cramer* in the Proceedings.
- * Pennington, Samuel Hayes, m. '63, ii. 85, 88; '72, ii. 7; hon. mem., '64, ii. 7; resides in Newark, N. J.

- † Perceval, Gurdon [M.], m. *Re.* 14.
- † Perceval, James [H.], m. *Re.* 12; '35, 15.
- † Percival, James Gates [H.], m. *Re.* 241; M.D., Yale, 1820; died 1856.
- † Percival, Warren [F.], m. '35, 9; death mentioned, '52, 17.
Perkins, Abijah, Army surgeon in war of Revolution, m. '62, 180.
- † Perkins, Azariah [N. L.], m. *Re.* 281.
- † Perkins, Austin Freeman [N. L.], m. '33, 9; '38, 3; '56, 3.
- † Perkins, Caleb [H.], m. *Re.* 12; '35, 15; West Hartford.
- † Perkins, Charles Harris [N. L.], 1891, Norwich; M.D., Coll. P. & S., N. Y., 1891.
Perkins, Hon. Elias m. *Re.* 229.
Perkins, Eliphaz, m. '62, 180.
- † Perkins, Elisha [W.], Corporator of the Conn. Med. Soc., *Re.* vi.; m. *Re.* 3, 9, 13, 21, 27, 28, 33; '35, 15; vote relating to his "delusive quackery," with metallic tractors, *Re.* 40; expelled, *Re.* 50; died Sept. 6, 1799.
- † Perkins, George Edwin [N. H.], m. '40, 6; '50, 12; Biog. sketch of, '77, 167.
Perkins, Joseph, Memorialist of 1763 to the General Assembly of the Colony of Conn., *Re.* iv.; m. *Re.* v.; Sketch of, '51, 52; '62, 171.
- † Perkins, Moses Harrison [N. H. and T.], m. '50, 12; '67, ii. 127; M.D., Yale, 1849; died 1874.
- † Perkins, Nathaniel Shaw [N. H.], m. *Re.* 207, 213, 253, 267, 285; '30, 5; '31, 3; '33, 7; '39, 3; '40, 3; '48, 3; Biog. sketch of, '71, 478.
Perkins, William, m. *Re.* 202; died 1820.
- † Perkins, William Sheldon Clark [N. L.], m. '56, 9; '75, ii. 78; '76, 6; '78, 14.
Perkins, Winslow Levi, m. '64, ii. 25.
- † Perry, Bennett [F.], m. *Re.* 15, 27, 53, 71, 87, 117, 119, 123, 137, 147, 153, 159, 165, 171, 177, 207; Sketch of, '53, 48.
- † Perry, Eli [F.], m. *Re.* 15, 27, 43, 101, 111, 117, 153; hon. deg. of M.D., *Re.* 155.
Perry, George Hazard, m. '55, 9.
Perry, Gideon B., m. '50, 7; M.D., Univ. N. Y., 1851.
- † Perry, Joseph [L.], '73, 197.

- † Perry, Nathaniel [L.], m. *Re.* 4, 14, 21, 27, 28, 30, 33, 34, 39, 43, 45, 53, 57, 61, 67, 72, 83, 84, 87, 91, 95, 102, 111, 117, 119, 123, 137, 159, 165, 171, 177, 183, 189, 195, 201, 213; Secretary, *Re.* 61; hon. deg. of M.D., *Re.* 185; died 1820.
- † Perry, Nathan Strong [L.], m. '41, 12; '43, 12; M.D., Yale, 1839; died 1855.
- † Perry, Nehemiah [F.], hon. deg. of M.D., '32, 8; dismissed, '51, 6.
- † Perry, Permit [F.], m. *Re.* 28.
Perry, Philo, '73, 197.
- † Perry, Thomas Wells [W.], m. '48, 13; '54, 3; '57, 3; '71, ii. 116; '81, 21; moved to Providence, R. I.; M.D., Univ. N. Y., 1846; died June 5, 1884, æt. 60.
- † Peters, John Samuel [T.], m. *Re.* 79, 102, 111, 112, 117, 119, 123, 124, 129, 133, 137, 143, 147, 153, 155, 159, 165, 171, 177, 183, 195, 229, 249, 278, 286; '32, 3; '36, 4; hon. deg. of M.D., *Re.* 202; Treas'r, 201, ~~207~~, 213, 223, 233, 239, 245, 253, 259; Vice-Pres't, *Re.* 267, 275; Pres't, *Re.* 285; '30, 3; '31, 2; Biog. sketch of, '58, 115.
- † Peters, Manly [L.], m. *Re.* 290; '31, 3; '35, 3; '40, 3; '46, 3; '50, 3; '55, 3; M.D., Yale, 1827; died 1864.
- † Peters, William Thompson [H. and N. H.] m. '30, 9; '33, 8; M.D., Yale, 1830; died 1885.
- † Phelps, Charles [N. L.], Corporator of the Conn. Med. Soc., *Re.* vi.; m. *Re.* 15; '73, 193.
- † Phelps, David [H.], m. '37, 9.
- † Phelps, Elisha [M.], m. *Re.* 14, 21, 34.
Phelps, Ezekiel B., m. *Re.* 239.
- † Phelps, Guy Rowland [H.], m. '31, 6; '35, 3; died March 18, 1869.
- † Phelps, Jeremiah W (adsworth) [L. and N. H.], m. '50, 18; '54, 3; '62, ii. 52; '64, ii. 2; '65, ii. 36; '68, ii. 2; '69, ii. 38; '73, 40; '78, 23.
- † Phillips, Alfred Noroton [F.], m. '85, 21; '88, 8; '91, 21.
- † Phinney, Elisha [N. L.], m. '38, 9; '59, 5, 7; '90, 20; M.D., Yale, 1835; died Oct. 11, 1892.
- † Phinney, Louis [N. L.], m. '41, 12; '42, 3; M.D., Bowdoin, 1840.
- * Physic, Philip Syrg, hon. mem., *Re.* 277; died Dec. 15, 1837.

- † Pickett, Noble Bennett [F.], m. '34, 8; M.D., Yale, 1834; died 1884.
- † Pierce, Elbridge Worthington [N. H.], m. '88, 27; '91, 21.
- † Pierce, George Howard [F.], m. '88, 27; '89, 81.
- † Pierce, John Gilkey [W.], m. *Re.* 290; '31, 3; '36, 3; M.D., Yale, 1825; died 1862.
- † Pierpont, Henry [N. H.], m. '53, 9; '54, 23; '64, ii. 1, 4; '65, ii. 35, 37, 38; Ichthyosis, '68, 162.
- † Pierson, Samuel [F.], m. '85, 21.
- * Pierson, William, m. '64, ii. 1, 8; '67, ii. 110; '83, 34; hon. mem., '65, ii. 43; died in Orange, N. J., Oct. 1, 1882.
- † Pierson, William Seward [M. and H.], m. *Re.* 183, 189, 233, 267; '30, 5; '33, 7; '36, 3; '43, 3; '51, 3; '58, 5; Biog. sketch of, '61, 133.
- † Pike, Nathan Smith [W.], m. '43, 11; '45, 5; '50, 3; '53, 3; '56, 3; M.D., Univ. N. Y., 1842; death mentioned, '57, 21.
- † Pinney, Charles Hitchcock. [N. H.], m. '57, 18; '76, 10; '80, 8, 21; '81, 18; '85, 8, 11, 16, 17; Sketch of Dr. Beardsley, '85, 212.
- † Platt, Daniel [M.], m. *Re.* 267.
- † Platt, Gideon Lucian [N. H.], m. '38, 9; '48, 3; '49, 3; '63, ii. 81, 84, 84, 85, 86, 87; '64, ii. 1, 3; '69, ii. 44; '73, ii. 45; '75, ii. 78, 81; '76, 5, 7, 8; '78, 16, 225, 226; '81, 7, 9, 21; Vice-Pres't, '79, 20; Pres't, '80, 21; Biog. sketch of, '90, 277.
- † Platt, Lucian Tudor [L.], m. '72, ii. 7, 17.
- † Platt, William Logan [L.], m. '84, 19; '87, 7, 20; '88, 7.
- † Plimpton, Daniel Bacon [T. and W.], m. '44, 17; '49, 15; '63, ii. 98; '64, ii. 2, 3.
- † Plumb, Frederick [L.], m. *Re.* 13, 123; '35, 16.
- † Plumb, Ovid [L.], m. '31, 8; death mentioned, '57, 21.
- † Plumstead, Matthew Woodbury [M.], m. '90, 32.
- † Plunket, Henry Bernard [H.], 1891; Rocky Hill.
- † Poll, Daniel [H.], m. '65, ii. 49; '69, ii. 58; Biog. sketch of '77, 168.
- † Pomeroy, Jerome Benjamin [N. H.], m. *Re.* 289; '30, 9.
- † Pomeroy, Stephen Franklin [T.], m. '54, 11; '55, 9; '56, 23; '57, 4; '61, ii. 24; '62, ii. 52, 56; '65, ii. 36; M.D., Yale, 1856.

- † Pond, James Otis [H.], m. *Re.* 185, 245, 259; hon. deg. of M.D., *Re.* 268.
- † Pons, Louis Jacques [L.], m. '89, 27.
- † Poor, Jonathan [F.], m. *Re.* 15.
- † Poor, Joshua [F.], m. '73, 199.
- Porter, Daniel. Colonial physician; Sketch of, '51, 26; '59, 27; m. '61, 134.
- † Porter, Daniel, Jr. [N. H.], m. '33, 9.
- † Porter, Denman Camp [N. H.], m. '32, 8.
- † Porter, George Loring [F.], m. '70, 93; '74, ii. 50, 52; '77, 14; '79, 21; '80, 22; '81, 23; '82, 9, 23, 32, 33; '83, 4, 16, 40, 44; '84, 15; '85, 8, 15, 17; '87, 18; '88, 15, 19; '89, 7; '90, 25; '91, 17, 21; Report, '90, 18; Essay, '82, 87; Vote of thanks to, '82, 32; Vice-Pres't, '87, 20; Pres't, '88, 17; Address to Fellows, '89, 9; Address to convention, '89, 33.
- † Porter, Henry Bliss [H. and N. H.], m. (*Re.* 289, A. C. Porter) '30, 9; '41, 10; died 1866.
- † Porter, Horace Philo [N. H.], m. '61, ii. 36; '63, ii. 120.
- † Porter, Isaac Gleason [N. L.], m. '33, 9; '45, 5; '53, 3; '55, 3, 6; '57, 3; '58, 5; '61, ii. 23, 25, 26; '65, ii. 35, 37, 38, 43; '65, ii. 58; '68, ii. 1, 4, 5, 8; '71, ii. 109, 116; '72, ii. 6; '73, ii. 25; '74, ii. 50, 52, 57; '75, ii. 78, 81, 85; '76, 5, 15; '80, 22; '81, 15, 18; '84, 23; '85, 7, 17; Reports, '69, 296; '75, 373; Sketch of Dr. Palmer, '69, 299; of Dr. Perkins, '71, 478; of Dr. S. Smith, '78, 209; Dissertation, '38, 5; Lessons of the war, '66, 67; Self-restorative power, '67, 275; Abortion, '74, 248; Essay, '76, 114; Vaccination, '78, 111; Thrombosis, '84, 133; Vice-Pres't, '65, ii. 36; Pres't, '66, ii. '78.
- † Porter, Joseph [N. H.], m. *Re.* 289; '37, 10.
- † Porter, John Bliss [T.], m. '33, 11; Sketch of, '70, 447; Memoir of, '75, 433.
- † Porter, Joshua [L.], corporator of the Conn. Med. Soc., *Re.* vi.; m. *Re.* 14; '35, 16; '73, 196, 197; died Sept. 12, 1825.
- Porter, John Addison, hon. deg. of M.D., '54, 10.
- † Porter, Marcus [N. H.], received license to practice, *Re.* 17; Member of the Society, 1806.
- Porter, Rev. Noah, m. '73, ii. 31; '78, 18, 228.

- Porter, Samuel, Colonial physician, m. '51, 37, 38.
- † Porter, William [H. and L.], m. '52, 13; '53, 3; '70, ii. 94; '72, ii. 2, 4; '73, ii. 45; Report, '72, 27.
- † Porter, William, Jr. [H.], m. ('85, 20, 220; '86, 224, erroneously printed *G. L. Porter*), '87, 194.
- * Post, Wright, hon. mem.; *Re* 261; died June 14, 1828.
- † Potter, Edward [N. H.], m. '43, 10.
- † Potter, Frank Edward [M.], m. '90, 32.
- † Potter, Henry [N. L.], m. '67, ii. 133; '70, ii. 92; Biog. sketch of, '80, 167.
- † Potter, James [F.], Corporator of the Conn. Med. Soc., *Re*. vi.; m. *Re*. 3, 4, 9, 15, 23, 33, 34, 39, 45, 53, 57, 62, 67, 71, 91, 96; '35, 15; Vice-Pres't, *Re*. 43, 53, 61, 71, 83; Pres't, *Re*. 87, 95; Address, '51, 56; Sketch of, '51, 59; '53, 46.
- † Potter, Jared [N. H.], Corporator of the Conn. Med. Soc., *Re*. vi.; m. *Re*. 3, 4, 5, 9, 12, 33, 39, 43, 44, 53, 57, 61, 67, 76, 83, 85, 88, 91, 92, 95, 96; '35, 15; Sec'y. *Re*. 3, 21; Vice-Pres't, *Re*. 111, 117; hon. deg. of M.D., *Re*. 63; Essay, *Re*. 57; Regimental surgeon War of the Revolution, '51, 49; Sketch of, '51, 59.
- † Potter, John [H.], m. *Re*. 12; '35, 15.
Powell, Stephen Cambrelling, m. '64, ii. 26.
- † Powers, Frederic [F.], m. '76, 12; '87, 8; Report, '78, 139.
Powers, Ozro Erwin, m. '71, ii. 127.
- † Poyer, John Baptist [H.], 1891, New Britain; M.D., Dartmouth, 1886.
- † Pratt, Ambrose [M.], m. '44, 17; '46, 4; expelled, '62, ii. 52.
- † Pratt, Elias [L.], m. '90, 32.
- † Pratt, Edward Loomis [L.], m. '89, 27; '90, 9; '91, 9.
- † Pratt, Titus C. [N. H.], m. '30, 9; M.D., Bowdoin, 1823.
- † Prentice, Amos, Jr. [N. L.], m. *Re*. 16.
Prentice, Curtis, m. *Re*. 234.
- † Preston, Gilbert Howard [T.], m. '47, 13; '48, 3; '52, 3; '55, 3; '58, 3; '60, 6; '61, ii. 24, 25, 29; '62, ii. 56; '64, ii. 2, 3, 4, 6; '66, ii. 78, 79, 80, 84; '68, ii. 2, 6; '70, ii. 78, 84; '71, ii. 113, 114; '72, ii. 2, 4, 6; '74, ii. 50, 57; '75, ii. 81; '76, 6, 7; '77, 9, 10, 12, 14; '78, 11, 13, 15, 18, 20, 225; '79, 21, 179, 180; '80, 16, 17, 21; '81, 14; '82, 23; '83, 17, 34; Biog. sketch of, '83, 182.

- † Preston, Henry Canfield [H.], m. '44, 13; M.D., Univ. N. Y., 1844; moved to St. Johns, N. B.
- † Preston, Selden Crawford [W. and H.], m. '39, 10; '41, 12; '54, 11; '65, ii. 49.
- † Preston, Stephen [T.], m. *Re.* 15; Colonial physician, sketch of, '70, 442.
- † Prévost, Isidore Emile [T.], m. '44, 17. *E. J. Prévost* in the Proceedings.
- † Pritchard, David [N. H.], m. '33, 9; M.D., Yale, 1832; died 1868.
- Prudden, Theophilus Mitchell, m. '75, ii. 99; '81, 18.
- † Punderson, Samuel [N. H.], m. *Re.* 233, 245, 275; '39, 3; '60, 6; hon. deg. of M.D.; '34, 6; died 1870.
- Purdy, Alfred E. Martindale, of N. Y.; m. '75, ii. 79, 84.
- † Purdy, Alexander Marshall [N. L.], m. '89, 26; '91, 21.
- † Putnam, Daniel [W.], m. *Re.* 229.
- † Pyncheon, Thomas Ruggles [N. H.], m. *Re.* 12, 27; '35, 15; died Sept. 10, 1796.
- † RAMSEY, James [N. H.], m. '83, 35.
- Rand, William Henry, m. '77, 179.
- † Randall, Henry Clay [N. L.], m. '53, 16; '55, 18; M.D., Univ. N. Y., 1852; entered the Episcopal ministry; resides in Essex, Middlesex County.
- † Rankin, Charles Goodrich [H.], 1891, Glastonbury; M.D., Chicago Med. Coll., 1886.
- † Ransom, George M. [N. L.], m. '84, 19.
- † Rawson, Thomas H. [H. and N. L.], m. *Re.* 12; expelled, *Re.* 112.
- Ray, Charles W. of Vt., m. '88, 28.
- † Redfield, John [N. H.], m. '77, 138, 152.
- † Redfield, Samuel [M.], m. *Re.* 14; '35, 16; Biog. sketch of, '77, 152.
- † Reed, Chauncey [L.], m. '39, 14; death mentioned, '57, 21.
- † Reed, Elijah Fitch [T. and H.], m. *Re.* 14, 87, 91, 147, 160, 165, 233, 245, 259, 275, 285; '32, 3, 7; '35, 16; hon. deg. of M.D., *Re.* 235; died 1847.
- † Reed, Horace [H.], m. *Re.* 137, 171, 178.
- † Reed, Maro McLean [H.], m. *Re.* 289; '30, 9; M.D., Middlebury, 1826; died 1877.

- † Reed, Stephen [L.], m. *Re.* 290; '30, 11.
- * Reeves, James Edmund, m. '83, 18; hon. mem., '84, 17; resides in Chattanooga, Tenn.
- † Reid, Thomas [F.], m. '78, 22.
- † Reilley, James Michael [N. H.], m. '79, 179; October, 1891, New Haven.
- † Reynolds, Gideon Perry [N. H.], m. '71, ii. 124; '81, 225.
- † Reynolds, Herbert Sumner [M.], m. '87, 25.
- † Rice, Frederick Augustus [F.], m. '81, 20; '88, 8.
- † Rice, John G. [W.], m. '30, 10.
- Rice, Noah, Colonial physician, m. '70, 442.
- Richards, James Austin, m. '56, 23; died 1858.
- † Richards, Lewis [F.], m. '34, 8; '51, 3; '69, ii. 37; hon. deg. of M.D., '54, 10; Biog. sketch of, '80, 174.
- † Richardson, Dwight Alphonzo [F. and N. H.], m. '82, 26, 27, 200; '89, 27.
- † Richardson, William Henry [T.], m. '34, 10; '37, 3; '40, 3; '43, 3; '51, 3; '60, 5, 7; '62, ii. 52, 56; '69, ii. 38; '77, 14; Biog. sketch of, '79, 171.
- Richmond, David, m. '77, 130
- † Richmond, John [M.], m. *Re.* 153, 154, 177, 183; '77, 146.
- † Rinfret, Adolph A. [W.], m. '72, ii. 16, 18; *Reinfut* in the Proceedings.
- † Ring, Henry Wilson [N. H.], m. '90, 32, 45; Ophthalmia, '90, 102.
- † Rising, Aretas [H.], m. '47, 9; '50, 3; Biog. sketch of, '84, 163.
- † Rising, Henry Martin [H.], m. '67, ii. 115; '68, ii. 24; '71, ii. 123.
- † Rising, John Converse [H.] m. '49, 13; M.D., Vt. Med. Coll. Woodstock, 1848; moved to New York.
- † Rising, Mary J. [F.], m. '80, 24; see Mary J. R. *Young*.
- † Risley, Stephen Goodale [H. and T.], m. '48, 11; '61, ii. 29; '62, ii. 56; '65, ii. 36, 39; '68, ii. 2; '69, ii. 38, 39, 44; '71, ii. 110, 114; '73, ii. 25, 26, 29, 30; '74, ii. 52; '75, ii. 78, 79, 83; '76, 6, 8, 23; '79, 9, 11; '80, 22; '81, 8, 15, 16; '82, 5, 29; '87, 9, 19, 22; '88, 17; '89, 22; Reports, '69, 293; '76, 90; '79, 130; '84, 33; '86, 206; Singultus, '75, 391; Sketch of Dr. Preston, '83, 182.
- † Ritter, Thomas [H.], m. '30, 9; M.D., Yale, 1829; died 1876.

- † Roath, Benjamin Tyler [N. L.], m. '40, 9; '46, 3; '79, 27; '81, 20; Biog. sketch of, '81, 219.
- Robbins, George Orrin, m. '78, 16, 227; '79, 179; '80, 193.
- † Robbins, James Watson [N. H.], 1891, Naugatuck; M.D., Bellevue, 1880.
- Robbins, Rev. Thomas, m. *Re.* 229.
- † Roberts, Rev. Ashbel [H.], 1833, Hartford.
- Roberts, Charles Theodore, m. '79, 180; '80, 193.
- † Roberts, Edward Kilbourn [N. H.], m. '80, 194; '81, 239; '83, 35.
- † Roberts, George Kerr [H.], m. '79, 27; George R. in the Proceedings.
- † Roberts, Nathan Selleck [F.], m. '68, ii. 17; W. S. Roberts in the Proceedings; resides in New York.
- † Roberts, William Smith [F.], m. '68, ii. 17.
- † Robertson, Ashbel [H.], m. '34, 7; '40, 8.
- † Robertson, John Brownlee [N. H.], m. '33, 8; M.D., S. C. Med. Coll., 1813.
- † Robertson, William [W.], m. *Re.* 13, 16; withdrew from the Soc., 1813.
- Robinson, Abraham Hazen, m. '75, ii. 153.
- Robinson, Ebenezer, Memorialist of 1763 to the General Assembly of the Colony of Conn., *Re.* vi.; m. '51, 51.
- † Robinson, Erastus [W.], m. *Re.* 159.
- † Robinson, Horatio [N. L.], m. '34, 8.
- † Robinson, Myron Winslow [N. L.], m. '63, ii. 120; '86, 21; '89, 8; '91, 8, 15.
- † Robinson, Remus [N. L.], m. '83, 35, 188.
- † Robinson, Rienzi [W.], m. '72, ii. 16; '73, ii. 26; '74, ii. 50; '75, ii. 81; '81, 9; '82, 9, 14, 23; '86, 7, 13; '87, 8; '90, 8; Report, '82, 75; Sketch of Dr. Williams, '82, 171.
- Robinson, Samuel Curtis, m. '54, 11; '55, 25.
- † Robinson, Whiting [W.], m. *Re.* 18.
- † Robinson, William [N. L.], m. *Re.* 289; '30, 3, 5; hon. deg. of M.D., *Re.* 277; died 1845.
- † Rockwell, Alonzo [H.], m. '34, 7.
- † Rockwell, Philo Giteau [H. and N. H.], m. '50, 11; '51, 3; '55, 3; '57, 7; '60, 6, 7, 8, 9; '63, ii. 122; '66, ii. 77, 81, 84; '67, ii. 109, 113; Biographical sketches by, '59, 95, 99; '60, 67, 69; '66, 269.

- † Rockwell, Samuel [L.], *m. Re.* 3, 9, 14, 33, 39, 43, 53, 57; '35, 15; died 1836.
- † Rockwell, Samuel, of Sharon [L.], *m. Re.* 223, 233; '35, 6; hon. deg. of M.D., *Re.* 216; Dissertation, *Re.* 224.
- † Rockwell, Sidney William [H.], *m.* '44, 13, 21; '47, 3; '55, 3; '59, 5, 7; '63, ii. 81, 84, 87; '64, ii. 1, 4; '65, ii. 59; '71, ii. 117; '77, 9, 10, 12; '78, 11, 13, 67; '80, 8; hon. deg. of M.D., '55, 10; Biog. sketch of, '91, 307.
- † Rockwell, Stephen [F.], *m. Re.* 15; '35, 16.
- † Rockwell, Thomas Francis [T.], '83, 36; '86, 19; '91, 9, 15.
- † Rockwell, William Hayden [H.], *m.* '31, 8; M.D., Yale 1831; died 1873.
- † Rodman, Charles Shepherd [N. H.], *m.* '83, 35; '88, 8, 29; '90, 8; '91, 21; Blepharitis, '90, 143.
- † Rodman, William Woodbridge [N. H.], *m.* '46, 13; expelled, '51, 7.
- † Rogers, Benjamin [H.], *m.* '40, 8; '44, 5; hon. deg. of M.D., '44, 7; death mentioned, '60, 19; Biog. sketch of, '60, 53.
Rogers, Charles, *m. Re.* 84.
- † Rogers, Charles Henry [W.], *m.* '48, 13; '54, 3; '63, ii. 121; '69, ii. 53; '78, 11; '85, 8, 11, 18.
- † Rogers, David [F.], corporator of the Conn. Med. Soc., *Re.* vi.; *m. Re.* 15, 88; '73, 197; Sketch of, '53, 31.
Rogers, Ezekiel, Colonial physician, sketch of, '62, 172.
- † Rogers, Francis Joseph [F.], 1891; Stamford; M.D., Univ. Pa., 1873.
- † Rogers, Frederick [W.], *m.* '65, ii. 51; '85, 8, 11; '89, 8, 21; '90, 8.
Rogers, George Hammond, *m.* '50, 23.
- † Rogers, Henry Alexander [N. L.], *m.* '88, 27; '90, 8.
Rogers, Hezekiah, *m.* '53, 31.
- † Rogers, James [N. L.], *m. Re.* 290; '37, 3; hon. deg. of M.D., '37, 5; died 1851.
- † Rogers, Jeremiah [N. L.], *m. Re.* 16.
Rogers, Theophilus, Colonial physician; Sketch of, '62, 172.
- † Rogers, Theophilus, Jr. [N. L.], Memorialist of 1763 to the General Assembly of the Colony of Conn., *Re.* iv.; Corporator of the Conn. Med. Soc., *Re.* vi.; *m. Re.* 3, 9, 11, 15, 21, 27, 28, 33, 34, 39, 43, 45, 53, 57, 71; '35, 15; hon. deg. of M.D., *Re.* 63; Sketches of, '51, 52; '62, 173.

- † Rogers, Timothy [L.], Corporator of the Conn. Med. Soc., *Re.* vi.; *m. Re.* 14.
 Rogers, Uriah, Colonial physician, *m.* '51, 37; Sketch of, '53, 31.
- † Root, Edward King [H.], *m.* '83, 35; '86, 18; '87, 8; '88, 18; '89, 7, 8; '90, 26; Reports, '87, 161; '91, 141; Sewage, '91, 261.
- † Root, Joseph Edward [H.], *m.* '85, 20; '89, 31, 32; '91, 45; Arteritis of brain, '89, 217.
- † Root, Josiah [H.], *m. Re.* 12; '35, 15; Hamden and Southington.
- † Rose, Prosper [N. L.], *m. Re.* 16; Groton.
 Ross, Royal, *m.* '75, ii. 152.
- † Rosseau, Benjamin A. [F.], *m.* '35, 9; M.D., Coll. of P. and S., N. Y., 1831.
 Rossiter, Bray, Colonial physician; made first post mort exam. in the Colony of Conn., '61, 134.
- † Rossiter, Timothy W [N. H.], *m. Re.* 13; '35, 15.
 Rowe, Charles Henry, *m.* '65, ii. 57.
- † Rowell, Samuel Newell [N. H.], *m.* '52, 21; '54, 16.
 Rowland, Charles, *m. Re.* 239.
- † Rowland, Edward [H.], *m.* '37, 9; '40, 3; died 1845.
- † Rowland, James [H.], *m.* '34, 6; '37, 9.
 Ruggles, Samuel S., *m.* '44, 11.
- † Ruickoldt, Arthur [N. H.], *m.* '69, ii. 52; '91, 328.
- Ruland, Fred Davis [F.], 1891; M.D., Coll. P. and S., N. Y., 1889.
- Rush, Benjamin, hon. deg. of M.D., *Re.* 30; presents pamphlet to Convention, *Re.* 124; *m.* '89, 18.
- † Russ, John Denison [H.], *m.* '36, 8; died 1881.
- † Russell, Gurdon Wadsworth [H.], *m.* '37, 9; '38, 8; '43, 3; '49, 5; '57, 13; '59, 10; '60, 4, 5, 7, 8, 9, 10, 11; '61, ii. 29; '62, ii. 51, 52, 54; '63, ii. 83, 85; '64, ii. 1, 4; '65, ii. 35, 37, 39, 40, 41; '66, ii. 83; '70, ii. 79; '72, ii. 1, 5, 7; '73, ii. 28, 29, 31; '74, ii. 52, 56, 69; '75, 79, 81; '76, 9, 10, 14; '77, 14, 20; '78, 11, 12, 15, 20, 21; '79, 20; '80, 8, 14, 15, 17, 21, 22; '81, 13, 34, 53; '83, 29, 44; '89, 31; '90, 18, 19, 20; '91, 18; Sanitary reports. '55, 31; '56, 27; '57, 65; Sketch of Dr. Hall, '57, 59; of

Dr. Holmes, '71, 484; of Dr. Morrison, '74, 281; of Dr. Scott, '78, 197; of Dr. Jackson, '82, 151; of Dr. Hunt, '89, 235; Secretary, '46, 6; '47, 6; '48, 6; Vice-Pres't, '70, ii. 80; Pres't, '71, ii. 113; Vaccination, '57, 67; Prostate gland, '64, 35; Causes of disease, '72, 1; Reports, '74, 262; '81, 24; letter to, '90, 287.

Russell, Joseph, m. '44, 11.

† Russell, Thomas Hubbard [N. H.], m. '75, ii. 99; '77, 18; Report, '85, 71; New remedies, '87, 59.

† Russell, William Spencer [N. H.], m. '79, 180; '81, 19, 239; '86, 8.

† Russell, Willis Adams [M.], m. '85, 21; '89, 21.

† Ryce, Bernard Paul [N. H.], m. '91, 31.

Ryerson, Thomas, of New Jersey, m. '70, ii. 78.

SABIN, JOHN, Colonial physician; brief sketch of, '62, 171.

† Sage, William Henry [H.], m. '49, 13; expelled, '57, 10.

† Salisbury, Samuel Thurber [L.], m. '37, 11; '52, 3; '56, 3; '59, 6; '61, ii. 24, 25; '64, ii. 6; '65, ii. 36, 39; '67, ii. 110; '68, ii. 25; Biog. sketch of, '74, 284.

† Salter, Richard Henry [N. L.], m. '34, 8; M.D., Yale, 1831.

† Saltmarsh, Seth [H.], m. '43, 9.

† Samuel, David [W.], m. '86, 21.

† Sanborn, Nathan Willard [W.], m. '84, 19; '86, 8; M.D., Dartmouth, 1880; moved to Marblehead Mass.

* Sanborn, Thomas, m. '64, ii. 8; '78, 22; hon. mem., '65, ii. 43; died 1875.

† Sands, Samuel [F.], m. '63, ii. 98; '65, ii. 35; '67, ii. 109; '71, ii. 109; '74, ii. 50; died 1891.

Sanford, Charles Edward, m. '52, 6; '53, 23.

† Sanford, Edward [L.], m. '60, 17.

† Sanford, George Willis [H.], m. '37, 9; '41, 3; '51, 3; '63, ii. 81, 85, 86, 87; '70, ii. 77; '71, ii. 109, 110, 114; '75, ii. 77, 83; '81, 8; died Sept. 23, 1892.

† Sanford, Isaac Reed [N. H.], m. '76, 12, 153; '79, 27; '80, 9; '89, 27.

† Sanford, Leonard Jacob [N. H.], m. '55, 18; '58, 5; '62, ii. 51, 55; '71, ii. 113, 114; '72, ii. 4; '73, ii. 25, 28, 30, 32; '75, ii. 77, 78, 79, 81, 83; '76, 6; '77, 14; '80, 8, 14, 15, 17, 22; '81, 8, 12; The blood, '62, 187; Sec'y, '62, ii. 54;

- '63, ii. 82; nom. to professorship med. inst. Yale, '63, ii. 108.
- † Sanford, Samuel [N. H.], m. *Re.* 13; '35, 16.
Sargent, Dudley Allen, m. '78, 226, 227.
- * Sargent, Joseph, of Worcester, hon. mem., '55, 11; died 1888.
Satterlee, Dwight, '63, ii. 121.
- † Savage, Thomas Staughton [M.], m. '33, 11; died 1880.
- † Sawtelle, Frederick George [W.], m. '82, 9, 26; '83, 5; '84, 4; '86, 8; '87, 7; '90, 8.
- † Schavoir, Frederic [F.], 1891; Stamford; M.D., Coll. P. & S., Baltimore, 1887.
- † Schovill, James [F.], Corporator of the Conn. Med. Soc., *Re.* vi.; m. *Re.* 15; '35, 16; '51, 61 (this name also appears as *Schofield*).
- † Scott, Albert Lewis [F.], m. '86, 21.
- † Scott, Barnabas [L.], m. *Re.* 14; '35, 16.
- † Scott, John [N. L.], m. *Re.* 4, 16; Sketch of, '62, 179.
Scott, Robert Baker; see *Baker*, Scott R.
- † Scott, Simeon W. [N. L.], m. *Re.* 15.
- † Scott, William [H.], m. '40, 8; '47, 3; '61, ii. 23; '63, ii. 81, 83, 84; '71, ii. 109, 110, 112; Sketch of Dr. Williams, '58, 113; Biog. sketch of, '78, 197.
- Scovill, James. See James *Schovill*.
- † Scovill, John [L.], m. '38, 10.
- † Scranton, George Washington [N. H.], m. '34, 7; died 1853.
- † Seabury, Samuel, Jr. [N. L.], m. *Re.* 16.
- † Sears, Cushman Allen [H. and M.], m. '65, ii. 49; '74, ii. 50; '80, 79; '83, 5; '86, 9; '87, 7, 13.
- † Sears, James William [N. H.], m. '87, 25.
- † Sears, John [L.], m. '31, 8.
- † Seaver, Jay Webber [N. H.], m. '90, 31.
- † Sedgwick, James Theodore [L.], m. '89, 27; '90, 9; '91, 9, 15.
- † Sedgwick, William Russell [H.], m. '88, 27.
- † Seeley, Baldwin [L.], 1843.
- † Seeley, Lloyd [F.], m. *Re.* 239, 285; '32, 7; '33, 7; '35, 3; '46, 3; hon. deg. of M.D., '34, 6; dismissed, '51, 6.
- † Seeley, Thomas Taylor [L.], m. ('43, 12; *Sly* in the Proceedings); '44, 5; '46, 15; M.D., Coll. P. & S., N. Y., 1842.
- Sefton, Frederick, m. '85, 18.

- * Seguin, Edward Constant, m. '79, 18; '80, 17; '81, 22; '90, 34; hon. mem., '80, 18; Letter, '81, 20; Epilepsy, '81, 113; resides in Providence, R. I.
- † Segur, Gideon Cross [W.], m. '36, 10; '37, 11; moved to Springfield, Mass.; died 1864.
- † Segur, Gideon Cross [H.], m. '87, 25; '88, 29; '90, 39, 41, 42, 43; '91, 42, 45; Essay, '88, 95, 163.
- Sellew, Wells Hamilton, m. '52, 21.
- Seymour, Edward, m. '53, 9.
- † Seymour, George [L.], m. '42, 10; '44, 5; '53, 3; '56, 3; '59, 6; Biog. sketch of, '61, 117.
- Seymour, Mason S., m. '49, 8.
- Seymour, Moses McClure, m. '33, 5.
- Shailer, Fisk, m. '50, 7.
- † Sheffrey, Charles Woolley [N. H. and F.], m. '62, ii. 71; '63, ii. 97; '76, 6; Report, '77, 92; died 1892.
- † Sheldon, Daniel [L.], Corporator of the Conn. Med. Soc., *Re.* vi.; Regimental surgeon in Revolution, '51, 49; m. *Re.* 4, 14, 21, 27, 28, 33, 34, 39, 45, 50, 57, 61; '51, 54; '73, 197; Sec'y, *Re.* 40, 43, 53; hon. deg. of M.D., *Re.* 179; Memoir of, '70, 408.
- † Shelton, Gould Abijah [F.], m. '67, ii. 115; '69, ii. 58; '78, 11, 16; '84, 4; '89, 7, 31; '91, 18; Heredity, '89, 195.
- † Shelton, James Hovey [F.], m. *Re.* 254, 290; death mentioned, '68, ii. 19.
- † Shelton, Mortimer N. [F.], m. *Re.* 260, 290; '31, 3; died 1832.
- Shelton, Nathan, of Long Island, hon. deg. of M.D., '35, 5.
- † Shelton, Theodore Botsford [N. H.], m. '34, 7.
- † Shelton, William [F.], m. *Re.* 15, 33, 34, 43, 45, 53, 57, 61, 67, 71, 88, 123, 137, 147, 165, 195, 201; hon. deg. of M.D., *Re.* 196; Sec'y, *Re.* 87, 95, 101, 111, 112; Sketch of, '53, 48.
- † Shelton, William Tomlinson [F.], m. *Re.* 253, 267, 275; '35, 3; death mentioned, '68, ii. 19.
- † Shepard, Durell [N. H.], m. '63, ii. 86; '64, ii. 26; '90, 32.
- † Shepard, Frederick William [M.], m. '35, 11; '38, 3; '44, 5; '48, 3; '54, 3; '58, 5; Biog. sketch of, '61, 123.
- Shepard, Munson A., m. '47, 5.
- Shepard, Samuel Brace, m. '55, 9; M.D., Yale, 1856.
- Shepard, Silas M., m. *Re.* 107.

- † Shepard, Thomas D. [F.], m. '29, 12 (in *Re.* 290 is printed T. D. *Lepard*), *Re.* 247, 285; '31, 3; died 1836.
- † Shepherd, George Reubens [N. H. and H.], m. '67, ii. 132; '69, ii. 52; '76, 6; '77, 9, 10; '86, 18; '87, 20, 28; '88, 8, 28; '90, 8, 12, 29; '91, 17, 28; Pruritus, '75, 351; Glycosuria, '87, 41; Albuminuria, '88, 203.
- † Shepherd, Gideon [F.], m. *Re.* 15, 33, 39, 43, 45, 53, 62, 71, 83, 87, 95, 102, 112, 119, 137, 147, 153, 159, 172, 183, 189, 213; hon. deg. of M.D., *Re.* 155; Vote of thanks for answer to prize questions, *Re.* 28, 39; communication, *Re.* 349; Sketch of, '53, 46.
- † Sherman, A. Josephine [M.], 1891; Middletown; M.D., Woman's Med. Coll., 1890.
- † Sherman, Henry Arthur [W.], m. '91, 31.
Sherman, Hon. Roger Minot, m. *Re.* 229.
- † Sherwood, Justus [F.], m. '32, 9; '34, 3; '38, 3; '50, 3; '52, 3; '54, 3; '55, 3; '56, 3; '59, 5, 11; Biog. sketch of, '80, 176.
- † Shew, Abram Marvin [M.], m. '70, ii. 94; '72, ii. 8; '74, ii. 49, 54; '75, ii. 81; '76, 6, 7, 9; '78, 23; '80, 16, 21; '81, 9, 13, 14, 16, 17, 35, 54; '84, 22; '85, 9, 17; '86, 8, 10; Report, '81, 34; insane colony at Gheel, '79, 153; California, '84, 49; Biog. sketch of, '86, 182.
- † Shipman, Elias, Jr. [N. H.], m. *Re.* 138, 155, 160, 171, 177.
Shipman, Samuel, m. '71, 429.
- † Shove, Harmon William [L.], m. '53, 23; '61, ii. 24; '83, 5, 45; '84, 5.
- * Shove, Seth, m. '69, ii. 44; '70, ii. 78, 80; hon. mem., '70, ii. 85; died 1878.
- † Shurtleff, Simeon [H.], m. '38, 8; '41, 3; M.D., Berkshire, 1835; died 1865.
- † Sibley, Joseph [T.], m. *Re.* 208, 245, 291.
- † Sibley, Palmer Franklin [W.], m. '35, 10; Palmer C. Sibley in the Proceedings.
- Sill, Elisha Noyes; member of com. for exam. army surgeons in war of Revolution, '51, 49; m. '61, 136.
- † Sill, Theodore [H.], m. '33, 8; '40, 3; '44, 5; '45, 8; Vote of thanks to, '46, 9; died 1853.
- * Silliman, Benjamin; hon. mem., *Re.* 261; resolution of thanks to, '53, 11; died 1864.

- Silliman, Prof. Benjamin, Jr.; nom. for Prof. in medical inst. of Yale, '53, 24.
- † Simmons, John Holmes [W.], m. '33, 10; '37, 3; '40, 3; '55, 3; '61, ii. 24, 25; '64, ii. 2; '77, 14; died Nov., 1891.
- † Simmons, Willard Nelson [T.], m. '90, 9, 12, 32.
- † Simons, Samuel [T. and F.], m. *Re.* 213, 253, 259, 267, 275, 285; '30, 3, 5; '42, 3; '46, 3; hon. deg. of M.D., *Re.* 268; died 1847.
- † Simpson, Frederick Thomas [H.], m. '86, 21; '90, 25, 26; '91, 8; Report, '91, 285.
- * Simpson, Samuel La Fayette, m. '67, ii. 110, 114; hon. mem., '68, ii. 7; died in Concord, N. H., March 10, 1877.
- * Sims, James Marion; hon. mem., '52, 8; m. '84, 18; died Nov. 13, 1883.
- † Sizer, Abel T. [N. L.], m. *Re.* 289; '35, 9.
- † Skeels, Amos [M.], m. *Re.* 14; '35, 16.
- Skiff, Paul Chesbro, m. '52, 6; '53, 23.
- † Skinner, Alden [T.], m. *Re.* 259, 291; '32, 7; '38, 3; '45, 5; '47, 3; '48, 3, 6; '49, 2; '50, 2; '57, 4, 11, 14; '59, 11; '62, ii. 56; death mentioned, '63, ii. 117; Biog. sketch of, '64, 51; '70, 445.
- † Skinner, Clarence Edward [N. H.], October, 1891, New Haven.
- † Skinner, Ezekiel [T. and W.], m. '30, 10; '58, 117; hon. deg. of M.D., '49, 7; Sketch of, '70, 434; member of Tolland Co. Soc., 1818.
- † Skinner, John [H. and N. H.], m. *Re.* 12, 288; '32, 8; '35, 15; '65, 92.
- † Skinner, Samuel Wolcott [H.], '46, 12; '63, ii. 119.
- † Skinner, Thomas [N. L.], m. *Re.* 16, 27; died 1796.
- Smart, Anson R., of Michigan, m. '81, 22.
- Smith, Abner M., of Massachusetts, m. '88, 28.
- † Smith, Abraham Lynes [N. H.], m. *Re.* 289; '30, 9; M.D., Yale, 1823; died 1832.
- Smith, Albert, of New Hampshire, m. '66, ii. 78.
- † Smith, Alexander [F.], m. '34, 8; '37, 10.
- † Smith, Andrew Jackson [F.], m. '67, ii. 126; '70, ii. 77, 84; '73, ii. 26; '80, 7; '89, 8.
- † Smith, Anna L. [N. H.], m. '89, 26; resides in Montclair, N. J.
- † Smith, Augustin P. [F.], m. '34, 8.

- Smith, Bayard Thomas, m. '76, 153.
- † Smith, Benjamin Franklin [M.], m. '37, 5; died 1865.
- † Smith, Charles [M.], m. *Re.* 208, 290; '30, 3; '35, 3; Biog. sketch of, '82, 146.
- † Smith, David Ebenezer [N. H.], m. '57, 18; moved to New Jersey.
- Smith, David Paige, of Springfield, m. '74, ii. 53; died 1880.
- * Smith, David Solon Chase Hall, hon. mem., '47, 7; died 1859.
- † Smith, Ebenezer [L.], m. *Re.* 14; '35, 16.
- Smith, Ebenezer Clark, m. '37, 5.
- Smith, Edward A., m. '48, 6.
- † Smith, Edward Montrose [F.], m. '84, 19.
- † Smith, Edward Wier [N. H.], m. '84, 18; '86, 8; '91, 7, 15.
- † Smith, Elihu Hubbard [H.], m. *Re.* 5, 12; '35, 15; died Sept. 19, 1798.
- † Smith, Ezra [N. H.], m. '57, 18, 25.
- † Smith, Frank Lewis [T. and F.], m. '79, 27; '80, 9; '81, 9; '88, 9, 18; Report, '80, 71; Colotomy, '84, 37; Parturition, '90, 82; removed to Bridgeport.
- † Smith, Frederick Sumner [H. and M.], m. '83, 35, '200; '89, 29; '90, 9, 40; '91, 42, 43; (F. I. Smith in the Proceedings), '88, 223.
- † Smith, Heman Bangs [N. H.], m. '77, 178; '81, 19.
- Smith, Henry, m. '48, 6; '50, 23.
- † Smith, Herbert Eugene [N. H.], m. '84, 18; '89, 20; Report, '90, 28; Criticism of water analysis, '86, 140.
- † Smith, Ira Sinclair [N. H.], m. '72, ii. 7, 15.
- † Smith, Isaac [M.], m. *Re.* 87, 96, 102, 114, 138; Biog. sketch of, '82, 145.
- † Smith, Ithamer H. [L.], m. '50, 13.
- † Smith, James Jay [W.], m. '89, 27.
- * Smith, James Malcom, hon. mem., '50, 5; died in Norwalk bridge accident, May 6, 1853.
- † Smith, James Monroe [N. L.], m. '44, 15; M.D., Castleton, 1843.
- * Smith, Jerome Van Crowninshield, hon. mem., '55, 11; died Aug. 21, 1879.
- Smith, Joel Washington, m. '49, 8; '50, 23.
- † Smith, John Edward [L.], m. '48, 14; '50, 3; '54, 18; M.D., Univ. N. Y., 1847.

- Smith, John H., m. '36, 5.
- † Smith, John Lay [N. L.], m. *Re.* 207, 239; '33, 9; '34, 8; death mentioned, '63, ii. 100.
- † Smith, John Talcott [W.], m. *Re.* 185; '14, 4; misprinted *James* in *Re.*; M.D., Yale, 1814; died 1819.
- † Smith, Junius Foster [F.], 1891; Brookfield; M.D., L. I. Coll. Hosp., 1890.
- † Smith, Justin [N. H.], m. '71, ii. 124.
- † Smith, Lucius Anthony [N. H.], m. '53, 23; '55, 18.
- † Smith, Marvin [N. H.], m. '89, 26.
- † Smith, Nathan [N. H.], m. *Re.* 259, 267; died July 26, 1828.
- * Smith, Nathan Ryno, hon. mem., *Re.* 277; m. '78, 22; died July 3, 1877.
- † Smith, Newton Phineas [N. L.], m. '83, 35; H. P. Smith in the Proceedings.
- † Smith, Oliver Cotton [H.], m. '84, 19; '88, 29; Essay, '88, 100. Smith, Reuben, member of committee for examining surgeons in war of the Revolution, '51, 49.
- † Smith, Rufus [N. L.], m. *Re.* 202, 289; Griswold.
- † Smith, Seth [N. L.], m. '46, 13; '52, 3; '54, 3; '76, 12; '77, 8; Biog. sketch of, '78, 209.
- † Smith, Vine [N. L.], m. *Re.* 214, 289; hon. deg. of M.D., '43, 5; death mentioned, '53, 19.
- Smith, Walter John, m. '78, 227; '79, 179.
- † Snow, Emerson Emery [F.], m. '84, 19.
- Somerville, Beverly R., m. '76, 154.
- † Soule, William [W.], m. '49, 8; '51, 23; '53, 17; '63, ii. 121.
- † Southmayd, Daniel [M.], m. *Re.* 14; '35, 16; regimental surgeon in Revolutionary war, '51, 49.
- † Southmayd, Samuel Gray [M.], m. '37, 12; died 1877.
- † Spalding, Asa [N. L.], m. *Re.* 16.
- † Spalding, Asa Luther [M. and H.], m. '33, 8; '38, 3; '49, 3; Biog. sketch of, '64, 66.
- † Spalding, Benjamin Bacon [W.], m. '35, 10; '38, 3; M.D., Yale, 1835; died 1874.
- † Spalding, John [N. L.], Corporator of the Conn. Med. Soc., *Re.* vi.; m. *Re.* 12, 21, 43, 44, 45, 53, 57, 61, 67, 71, 83, 84, 87, 91, 95, 102, 111; '73, 199; hon. deg. of M.D., *Re.* 97; regimental surgeon in Revolutionary war, '51, 49.

- † Sparhawk, Jonathan Hubbard [H.], m. *Re.* 153, 155, 159, 165, 171, 183, 189; M.D., Dartmouth, 1812.
- † Spencer, Dudley Carlton [L.], m. '53, 18.
- † Spencer, Lucius [N. H.], m. *Re.* 289; '30, 9.
Sperry, Charles A., of Vermont, m. '70, ii. 78, 80.
- † Spier, Leopold [N. H.], m. '69, ii. 52.
- † Sprague, Seth Loring [N. L.], m. '75, ii. 83; '77, 9, 21; '83, 5; Orthopædic surgery, '77, 85; Sketch of Dr. Johnson, '79, 167.
- † Spring, Frederick [N. H.], 1891; Naugatuck; M.D., Univ. N. Y., 1885.
Squibb, Edward R., of New York, m. '91, 27.
Staats, Barent P., of New York; m. '66, ii. 78.
- * Stackpole, Paul Augustine, m. '65, ii. 36, 42; hon. mem., '66, ii. 85; resides in Dover, N. H.
- † Stanley, Adna [H.], m. *Re.* 12; '35, 15.
- † Stanley, Charles Everett [M.], m. '78, 23; '86, 9.
- † Stanton, George Dallas [N. L.], m. '74, ii. 54.
- † Stanton, John Gilman [N. L.], m. '78, 22; '79, 10, 20; '82, 8; '83, 5, 11, 28, 29; '85, 8, 23; '87, 7; '88, 8; '91, 8, 20, 27; Essay, '86, 82; M.D., Würzburg, 1873.
- † Starkweather, Edward Payson [F.], m. '71, ii. 134; M.D., Berkshire, 1848.
- † Steadman, Willard George, m. '78, 22; '81, 8; '82, 8.
- * Stearns, John, m. '38, 6; hon. mem., '37, 5; died March 18, 1848.
- † Stearns, Henry Putnam [H.], m. '55, 25; '66, ii. 77, 80; '70, ii. 80; '75, ii. 99, 100; '76, 154; '78, 17; '79, 17, 29; '80, 21, 22, 26; '81, 35, 54; '82, 20, 23; '83, 13, 14; '86, 18; '88, 28; '89, 17, 32; '90, 8, 12; '91, 15; nom. phys. to Retreat, '74, ii. 68; Insane diathesis, '80, 89; Vote of thanks to, '80, 26; Report, '81, 34; Chloral hydrate, '75, 339.
- Stearns, Samuel, m. *Re.* 44, 49.
- † Stebbins, Roderick [W.], m. '42, 10; '44, 16.
Steele, Harvey Baldwin, m. '74, ii. 67.
- † Stetson, James Ebenezer [N. H.], m. '82, 26, 187, 200.
- † Steven, John Alexander [H.], m. '80, 23; Report, '86, 193; died June 25, 1887.
- † Stevens, John Gale [F.], m. '85, 18, 21.

- † Stevens, Jonathan Humphrey Pettibone [F.], m. '63, ii. 119; '76, 13; '79, 10, 11; *John H. Stevens* in the Proceedings; Biog. sketch of, '88, 216.
- † Stewart, Chauncey [F.]; *Edwin L. Stewart* in the Proceedings; removed to Ohio, 1832.
- † Stewart, Edwin L. [F.], m. '31, 7; '32, 9; see *Chauncey Stewart*.
- Stewart, Morgan, m. '34, 6.
- † Stewart, Philander [L.], m. '35, 10.
- † Stewart, Sylvanus [L.], m. '39, 14.
- Stickney, Pierre Le Breton, m. '75, ii. 79, 84.
- Stillman, Henry W., m. '43, 6.
- † Stillman, Roswell Fox [N. H.], m. '53, 16; '54, 3; '55, 3; '60, 6, 8, 10; '65, ii. 35; '70, ii. 77; '71, ii. 109; '74, ii. 49, 50, 54; Biog. sketch of, '80, 166.
- Stimson, Elam, m. *Re.* 202; M.D., Dartmouth, 1819; died 1869.
- Stimson, James, first physician who settled in Tolland County; Sketch of, '70, 426.
- † Stiles, Joseph Augustus [F.], m. '89, 27.
- † St. John, Gamaliel Hunt [L.], m. '33, 10; '37, 3; '40, 3; '50, 3; hon. deg. of M.D., '45, 7; Biog. sketch of, '78, 217.
- † St. John, Samuel Benedict [H.], m. '79, 26; '80, 26, 27; '81, 16, 22; '82, 44; '84, 9; '85, 7, 10; '86, 8, 13; '87, 13, 27, 40; '88, 7, 15, 18; '89, 19; Ophthalmia, '81, 113; Vote of thanks to, '81, 22; Sec'y, '83, 28; '84, 15; '85, 16; '86, 18; '87, 20; resigns office of Sec'y, '88, 27; resolutions in recognition of fidelity in office, '88, 28; Eye strain, '90, 131.
- † Stocking, Sabin [H.], m. '37, 9; '50, 3; '63, ii. 120; hon. deg. of M.D., '54, 10.
- † Stockman, Charles Oswald [N. H.], m. '65, ii. 50.
- † Stoddard, Abiram [N. H.], m. *Re.* 18, 289; '30, 3; '34, 3; death mentioned, '56, 19.
- † Stoddard, Abiram, 2d [N. H.], m. '33, 8.
- † Stoddard, Benjamin Franklin [N. L.], m. *Re.* 207, 259, 267, 275, 289; '33, 7; '41, 3; hon. deg. of M.D., '34, 6.
- † Stoddard, James [L.], m. *Re.* 13; '35, 16.
- † Stoddard, Thomas [N. H.], m. '38, 8; Biog. sketch of, '88, 212.
- † Stone, Burton Dwight [N. H.], m. '89, 26.

- † Stone, Jay Stephen [H.], m. '69, ii. 51.
- † Stone, Jefferson [L.], m. *Re.* 290.
Stone, Jonathan, m. *Re.* 185.
Stone, Lucius P., m. '36, 5.
- † Stone, Noah [N. H.], m. *Re.* 289; death mentioned, '51, 19.
- † Stone, Robert [N. H.], m. '66, ii. 91; M.D., Coll. P. & S., N. Y., 1858.
- Storer, Horatio Robinson, of Boston, m. '64, ii. 1.
- † Storrs, Cordial [W.], m. '71, 434.
- † Storrs, Melancthon [N. L. and H.], m. '47, 5; '53, 23; '57, 3; '63, ii. 120; '67, ii. 114, 136; '69, ii. 37, 39; '70, ii. 77, 79, 86; '72, ii. 5; '74, ii. 50, 52; '75, ii. 77, 79; '78, 15; '79, 12, 13, 18; '83, 28; '84, 4, 9, 15; '85, 7, 10, 14, 18; '86, 10, 14, 18; '87, 110; '88, 17, 19; '89, 21, 22, 24, 29, 32; '90, 19, 20, 21, 27, 44; '91, 17, 18; Reports, '72, 25; '77, 20, 21, 58; Ligature, '70, 328; Vaginal lacerations, '77, 129; Typhoid fever, '78, 45; Neurectomy, '87, 78; Intracranial tumors, '90, 114; Vice-Pres't, '89, 22; Pres't, '90, 25; address to Fellows, '91, 9; address to Convention, '91, 47.
- Stow, Hon. Joshua, m. *Re.* 229.
- † Stowe, William Harvey [N. H.], m. '89, 26.
- † Stratton, Edward Augustus [F.], m. '84, 19.
Strickland, Jesse, m. *Re.* 196.
- † Strickland, Rial [H.], m. '69, ii. 51; '73, ii. 25; '83, 4, 11; '87, 7, 25; Sketch of Dr. Fisk, '83, 171.
- † Strong, Adonijah [L.], m. *Re.* 290; died 1813.
- † Strong, George Washington [T.], m. '55, 25; member Tolland Co. Soc., 1855; moved to San Francisco.
- † Strong, Joseph [M.], m. *Re.* 14; '35, 16.
- † Strong, Nathan, Jr. [H.], m. *Re.* 171, 177, 183, 189, 195, 201; '65, 77.
- Stuart, Sylvanus, m. '37, 5.
- † Stutson, William Peckham [N. L.], m. '84, 19.
- † Sullivan, Daniel Francis [H.], 1891, Hartford; M.D., Niagara Univ., 1891.
- Sullivan, James, m. '75, ii. 99.
- † Sullivan, James Francis [N. H.], m. '88, 27; removed to New Bedford, Mass.
- † Sullivan, John Langdon [N. H.], m. '37, 9; died 1865.

- † Sumner, Charles Fletcher [T.], m. '44, 17; '46, 4; '59, 6, 7, 11; '64, ii. 2, 3, 4; '66, ii. 78, 79, 84; '68, ii. 2, 4, 6; '72, ii. 5; '74, ii. 50, 51, 52; '75, ii. 78, 79; '80, 8; '84, 5, 12; '85, 7; '86, 207; '87, 9; '88, 7; '89, 7, 31; '90, 18; '91, 9, 18; Sketch of Dr. White, '79, 171; Vice-Pres't, '69, ii. 38; Pres't, '70, ii. 80; Early physicians of Tol-land Co., '71, 425.
- † Sumner, Edwin George [T.], m. '52, 6; '53, 23; '55, 25; '56, 3; '63, ii. 82.
- † Sumner, George [H.], m. *Re.* 223, 224, 229, 233, 253, 267, 275, 285; '30, 5; '32, 3; '33, 7; '35, 3; '38, 3; '39, 5; '41, 8; '44, 5; Dissertation, *Re.* 287; Sec'y, '30, 3; '31, 2; Vice-Pres't, '47, 6; '48, 6; Pres't, '49, 5; '50, 4; Early physicians of Conn., '51, 4; Biog. sketch of, '55, 53.
- † Sumner, George Oliver [N. L. and H. and N. H.], m. *Re.* 289; '40, 3; '44, 14; '47, 3; '48, 3; hon. deg. of M.D., '46, 8; Treas'r, '51, 4; '52, 4; '53, 4; '54, 4; '55, 5; '56, 4; '57, 4; '58, 6; '59, 3; '60, 6; '61, ii. 25; '62, ii. 54; Biog. sketch of, '78, 203.
- † Sumner, Ossian [N. L.], m. '41, 7; '42, 9; M.D., Jefferson, 1842.
- Sumner, William, Colonial physician, sketch of, '70, 439.
- † Surridge, Charles Greenville [H. and N. H.], m. '78, 16; '79, 26, 180; '81, 19.
- † Sutton, David [T.], Corporator of the Conn. Med. Soc., *Re.* vi.; m. *Re.* 15, '70, 440; died 1804.
- † Swain, Henry Lawrence [N. H.], m. '85, 18; '87, 25; Sketch of Dr. Bradley, '90, 283.
- † Swan, James [N. H.], m. '32, 8.
- † Swasey, Edward [H.], m. '85, 20.
- † Swasey, Erastus Perry [H.], m. '72, ii. 7; '76, 19, 23; '78, 29; '80, 8; '81, 8, 12; '86, 8; '87, 19; '88, 8, 15; '91, 21; Reports, '76, 44; '78, 69; Uterine contraction, '78, 190; Placenta prævia, '79, 71; Treasurer, '82, 22; '83, 28; '84, 15; '85, 16; '86, 18; '87, 20; Resolutions in recog-nition of fidelity in office, '88, 28.
- † Swett, William Plummer [L.], m. '78, 23.
- † Swift, Edwin Dwight [N. H.], m. '53, 16.
- † Swift, Edwin Elisha [N. H.], m. '79, 181; '81, 19; moved to New York.

- † Swift, Earle [W. and T.], m. *Re.* 18, 223, 233, 245, 259, 285; '31, 3; '33, 7; '35, 3; '36, 3; '38, 3; '44, 5; hon. deg. of M.D., '30, 6; Memoir of, '70, 412; 435.
- † Swift, Isaac [L.], m. *Re.* 13; '35, 16.
- † Swift, Zephaniah [H.], m. *Re.* 229, 289.
- † TAFT, Charles Ezra [H.], m. '88, 27; '89, 21.
- † Tailer, Sigismund [N. H.], m. '88, 27.
- † Talbot, Robert Bancker [H.], m. '78, 22; moved to New York.
- † Talcott, Alvan [T. and N. H.], m. '32, 11; '35, 3; '37, 3, 4; '47, 3; '48, 3; '49, 6; '50, 23; '51, 3; '52, 3, 4, 21; '58, 5; '62, ii. 51, 52, 56; '67, ii. 114; '73, ii. 26, 27, 28; Dissertation, '49, 6; Model physician, '70, 394; Sketch of Dr. Campbell, '77, 158; Biog. sketch of, '91, 300.
- † Tanner, Alfred Herbert [W.], m. '91, 31.
- † Taylor, George [L.], m. *Re.* 290; '30, 11; M.D., Yale, 1824; died 1881.
- † Taylor, John [H.], m. '57, 17.
- † Taylor, Nathaniel William [N. H.], m. '47, 10; died 1875.
- † Taylor, Orris J. [F.], m. *Re.* 208, 259.
- † Teeple, George Montaigne [F.], m. '74, ii. 54; '76, 6; Biog. sketch of, '89, 259.
- † Ten Broeck, Stephen Philip Van Rensselaer [F.], m. '34, 8; '43, 3; Biog. sketch of, '68, 172.
- † Tennant, Charles Joseph [H.], m. '62, ii. 55; '63, ii. 106, 124.
- † Tenney, Arthur John [N. H.], m. '84, 192; '86, 21.
- † Terry, Adrian Russell [H.], m. '31, 6; died in Chicago, Dec. 3, 1864.
- † Terry, Edward Pomeroy [H.], m. *Re.* 245, 253, 275; '34, 3; M.D., Yale, 1823; died 1843.
- † Terry, James Luther [N. L.], m. '85, 20; '90, 32.
- † Terry, J(eremiah) Wadsworth [H.], m. '63, ii. 105, 123; '68, ii. 15.
- * Thacher, James, m. *Re.* 268; hon. mem., *Re.* 261; died May 26, 1844.
- † Thacher, James Kingsley [N. H.], m. '79, 180, 181; '80, 24; '81, 16; '87, 20; '90, 25; '91, 8, 32; nom. professor Med. Inst. of Yale, '79, 182; Essay, '88, 87; Biog. sketch of, '91, 314.
- Thacher, Ralph Partridge, m. '64, ii. 6.

- Thacher, Thomas, Colonial physician, m. '59, 28.
- † Thayer, Nathaniel [L. and M.]. m. *Re.* 14; '35, 16; original member Litchfield Co.; removed to Durham, Middlesex Co., thence rem. to Mass.
- † Thomas, Lemuel [L.], m. *Re.* 14; '35, 16.
- † Thomas, Lucius Addison [N. H.], m. '38, 8.
- † Thompson, Asahel [H.], m. *Re.*, 289; '30, 8; death mentioned, '67, ii. 128.
- † Thompson, Bradford Smith [L.]. m. '77, 18; '80, 9; '81, 16; '82, 9, 13, 23, 34; '83, 34; Reports, '80, 60; '82, 78; Biog. sketch of, '83, 177.
- † Thompson, Charles Steele [N. H.], m. '36, 8; '38, 3; '47, 3; '71, 429; '91, 32; Biog. sketch of, '91, 298.
- † Thompson, Edmund [H.], m. '84, 19; E. B. Thompson in the Proceedings.
- † Thompson, Ernest Le Roy [N. H.], m. '74, ii. 54, 67; expelled, '84, 17.
- † Thompson, George [N. L.]. m. '91, 31.
- Thompson, Gurdon, Colonial physician; Sketch of, '70, 429.
- Thompson, Horatio, m. *Re.* 254; '71, 429.
- Thompson, John Edward West, m. '82, 201; '84, 192.
- † Thomson, William Henry [N. H.], m. '63, ii. 97, 105; Sketch of Dr. C. S. Thompson, '91, 298.
- Thrall, Warren, hon. deg. of M.D.; '55, 10.
- † Thurston, Horace [N. L.], m. '51, 16; '53, 3, 8; '55, 3.
- † Tibbets, John C. [N. L.], m. *Re.* 259, 275, 285, 288; '34, 3; '39, 3.
- † Ticknor, Almon Pease [F.], m. '51, 10; '53, 3, 17, 23; died 1858.
- * Ticknor, Benajah, of U. S. Navy; hon. deg. of M.D., '36, 5; hon. mem., '42, 5; Biog. sketch of, '64, 58.
- † Ticknor, Caleb [L.], m. '32, 10; '33, 7; '63, 292.
- † Ticknor, Luther [L.], m. *Re.* 245, 253, 267, 285; '30, 3; '32, 3; '36, 3; '41, 8; Treas'r, '37, 3; '38, 3; '39, 3; '40, 3; Vice-Pres't, '41, 6; '42, 4; Pres't, '43, 4; '44, 6; '45, 9; Biog. sketch of, '63, 292.
- † Tiffany, Russell Hosford [L. and H.], m. '38, 10; '40, 8; '68, ii. 1.
- † Tillinghast, Frank A. [W.]. m. '68, ii. 17; M.D., Univ., Vt., 1867.

- † Tingley, Witter Kinney [N. L.], m. '86, 21; '91, 8, 21; Meningitis, '91, 181.
- † Tinker, William Richard [H.], m. '80, 24; '85, 8; '86, 8.
- † Tisdale, George [N. L.], m. *Re.* 178, 183, 189, 201, 233.
- † Tisdale, Nathan [F. and N. L.], m. *Re.* 195, 201, 223, 233, 239, 245, 285; hon. deg. of M.D., *Re.* 235; died 1830.
- † Titsworth, John [N. H.], m. *Re.* 233, 253; M.D., Yale, 1818; died 1873.
- † Todd, Eli [H.], m. *Re.* 12, 72, 119, 177, 190, 223, 229, 253, 285; '30, 4, 5; '32, 3; '33, 3; hon. deg. of M.D., *Re.* 179; Vice-Pres't, *Re.* 233, 239; Pres't, *Re.* 267, 275; died 1833.
- † Todd, Jonathan [N. H.], m. *Re.* 101.
- † Todd, Nathan [N. L.], m. '30, 9.
- † Todd, William Sheridan [F.], m. '71, ii. 125; '75, ii. 78; '76, 21; '84, 4; '86, 8, 18; '87, 7; '89, 29; Report, '78, 136; Adirondacks, '87, 87.
- † Tomlinson, Abraham [N. H.], m. *Re.* 12, 27, 33, 39, 53, 57, 61, 67, 83, 87, 91, 95, 101, 107, 111, 117, 123, 147, 153, 159, 165; hon. deg. of M.D., *Re.* 97; died Dec. 29, 1816.
- Tomlinson, Agur, Colonial physician, m. '53, 33.
- † Tomlinson, Charles [F.], m. *Re.* 15; '35, 16; '53, 33; '63, ii. 105, 120.
- † Tomlinson, Henry Abraham [N. H.], m. '33, 8; '36, 3; M.D., Yale, 1832; died 1840.
- Tomlinson, Hezekiah, Colonial physician, m. '53, 33.
- † Tomlinson, John [F.], m. *Re.* 223, 253; '31, 3; '32, 7; '33, 7; died 1837.
- Tomlinson, John Atwood, of Ky.; hon. deg. of M.D., '56, 8; died 1862.
- † Tomlinson, Joseph [N. H.], m. *Re.* 289; '31, 3.
- † Tomlinson, William Agur [N. H.], Colonial physician; Sketch of, '53, 33.
- † Topping, Jacob Reed [F.] m. '89, 27.
- † Totten, John Augustus [N. H.], m. '35, 8; died 1862.
- † Totten, Thomas Henry [N. H.], m. '37, 9; '55, 18; died 1874.
- Towner, Luther, m. *Re.* 224.
- Townsend, George James, of Mass., m. '83, 41.
- † Townsend, Joseph Hendley [N. H.], m. '88, 27.

- Townsend, Platt, Member of exam. com. for army surgeons in War of Revolution, '51, 49.
- † Townsend, Timothy Beers [N. H.], m. '58, 53; '63, ii. 81.
Townsend, William A., m. *Re.* 185.
- Tozier, Richard, Colonial physician and army surgeon, m. '62, 177.
- † Tracy, Andrew William [N. H.], m. '77, 17.
- † Tracy, Ebenezer [M.], m. *Re.* 4, 9, 14, 21, 27, 28, 34, 45, 61; Biog. sketch of, '77, 147.
- Tracy, Elisha, Memorialist of 1763 to the Legislature of the Colony of Conn., *Re.* iv.
- Tracy, Elisha, Sr., Colonial physician and member of exam. com. for army surgeons in War of Revolution, '51, 49, 52; Sketch of, '62, 175.
- † Tracy, Philemon [N. L.], Corporator of the Conn. Med. Soc., *Re.* vi.; m. *Re.* 4, 15, 21, 28, 33, 34, 39, 43, 45, 71, 72, 95; hon. deg. of M.D., *Re.* 196; Sketch of, '62, 176.
- † Tracy, Richard Proctor [N. L.], m. *Re.* 245, 253, 289; Memoir of, '71, 482.
- Tracy, Solomon, Colonial physician; Sketch of, '62, 170.
- † Tracey, William Joseph [F.], m. '91, 31; M.D., Univ. N. Y., 1889.
- Trask, John Boardman, of Cal.; hon. deg. of M.D., '59, 10.
- Treadway, Frederick Starr, m. '62, ii. 55; '64, ii. 25.
- † Treadway, William Alfred Buckingham [F.], 1891, Stamford; M.D., Univ. Mich., 1883.
- † Treadwell, Oliver Ferdinand [N. H.], m. '65, ii. 58; '67, ii. 125.
- † Tremaine, William Henry [M. and H.], m. '45, 16; '47, 3; '51, 3; '83, 34; Biog. sketch of, '83, 169.
- † Trent, John Henry [M. and L.], m. '77, 18; '79, 177.
- † Tribou, Nahum M. [N. L.], m. '60, 16; '62, ii. 51; '63, ii. 81; '64, ii. 2; Biog. sketch of, '65, 158.
- † Trigg, Henry Savary [H.], m. '82, 26; moved to New York.
- † Trowbridge, Joseph [F.], m. *Re.* 5, 15, 27, 28, 34, 62, 83, 84, 87, 95, 101, 102, 111, 112, 119, 123, 133, 137, 148, 153; '73, 199; hon. deg. of M.D., *Re.* 139.
- † Trowbridge, William Henry [F.], m. '55, 25; '65, ii. 35; '83, 34.
- Tucker, Frank Wheeler, m. '71, ii. 127.

- † Tudor, Edward [H.], m. *Re.* 12; '35, 15.
- † Tudor, Elihu [H.], Corporator of the Conn. Med. Soc., *Re.* vi.; m. *Re.* 3, 4, 9, 12, 21, 39, 53, 61, 62, 67, 71, 83, 87, 91; '35, 15; hon. deg. of M.D., *Re.* 23; Vice-Pres't, *Re.* 27, 33; accompanies a military expedition against the Spanish West Indies, '51, 47; M.D., Dartm., 1790; died 1826
- † Tudor, Elisha [H.], m. *Re.* 12; '35, 15; see *Elihu Tudor*.
- † Tudor, Samuel [H.], m. *Re.* 229.
- Tuller, Oliver, m. *Re.* v.
- *† Tully, William [N. H.], m. *Re.* 184, 189, 191, 195, 201, 207, 219, 223, 224, 229, 239; '30, 5; '84, 59, 60, 61; hon. deg. of M.D., *Re.* 208; dissertation, *Re.* 235; hon. mem., *Re.* 286; Biog. sketch of, '61, 109.
- † Turnbull, Thomas [H.], m. '91, 31.
- Turner, Alvan Hyde, m. '34, 6; M.D., Yale, 1835; died 1867.
- Turner, Daniel, received the first honorary degree of M.D. granted by Yale College, '51, 50.
- † Turner, John [N. L.], Corporator of the Conn. Med. Soc., *Re.* vi.; m. *Re.* 15, 53, 61, 95; Sketch of, '62, 179.
- † Turner, Lucius S. [L.], '42, 10.
- Turner, Orlando E., m. '45, 9.
- † Turner, Philip [N. L.], memorialist of 1763 to the General Assembly of the Colony of Conn., *Re.* iv.; Corporator of the Conn. Med. Soc., *Re.* vi.; m. v., 3, 9, 15, 21, 27, 28, 33, 39, 43, 53, 57, 71; '35, 15; '76, 111; army surgeon in the French war and surgeon-general during the war of the Revolution; Sketches of, '51, 51; '62, 177.
- † Turner, Rufus [M.], m. *Re.* 245, 259, 275, 278; '40, 3; '42, 3; hon. deg. of M.D., '30, 6; death mentioned, '52, 17; Biog. sketch of, '82, 147.
- † Turner, Sylvester Wooster [M.], m. '44, 11; '49, 16; '52, 3; '55, 3; '61, ii. 23, 27; '64, ii. 2, 3, 6, 8; '65, ii. 36, 41; '73, ii. 26, 28; '76, 22; '79, 9, 10, 21; '80, 22; '84, 3; '85, 22; '88, 9, 15; Angina pectoris, '85, 153.
- † Turner, Uriah [F.], m. '39, 3; hon. deg. of M.D., '42, 5; died 1847.
- † Turrell, Henry Stewart [L.], m. '64, ii. 26; '66, ii. 78; '67, ii. 110.
- † Tuttle, Frank Benjamin [N. H.], m. '63, ii. 106; '84, 18; honorably dismissed, '70, ii. 79.

- † Tuttle, Jared Wells [H.], 1851, Bristol and Bloomfield; M.D., Coll. P. & S., N. Y., 1847; moved to Galesburg, Ill., thence to Hamilton, Mo.; died 1885.
- † Tuttle, John Todd [F.], m. '32, 9; M.D., Yale, 1830; died 1870.
- † Tweedy, Edwin Augustus [W. and T.], m. '31, 8; '32, 10; '33, 11; M.D., Yale, 1831; died 1881.
- * Twitchell, Amos, hon. mem., '47, 7; died 1850.
- Twining, Sutherland Douglas, m. '64, ii. 26.
- † Tyler, Bishop [N. L.], m. *Re.* 16; '43, 10.
- † Tyler, David Atwater [N. H.], m. '41, 7; '44, 21; '47, 3; '61, ii. 24, 25; '62, ii. 51, 52; '71, ii. 109, 110, 113; '72, ii. 3, 5, 20; Biog. sketch of, '86, 176.
- Tyler, Gurdon, m. *Re.* 260.
- Tyler, John Heman, m. '64, ii. 26.
- † Tyler, Lucius [N. I.], m. *Re.* 223, 245, 259, 275, 289; '32, 7; '34, 3; '36, 3; '40, 3; '42, 3; '46, 3; hon. deg. of M.D., '36, 5; died 1847.
- † Tyler, Nathan Peabody [N. H.], m. '79, 180; '82, 26.
- † UFFORD, Daniel [F.], m. *Re.* 275, 290; '30, 3.
- † Ufford, Edward Goodrich [H.], m. '32, 8; '33, 8; M.D., Yale, 1845; died 1889.
- † Uhlhorn, Charles Lewis [N. H.], m. '44, 14, 21; died 1857.
- Upson, Hiram, m. *Re.* 246.
- Uricoechea, Ezequiel, m. '52, 21; returned to his native country, Colombia, in 1857, where he was professor of chemistry till 1868; died 1880.
- † Usher, Robert [M.], m. *Re.* 14; '35, 16; '77, 153, 154.
- Utley, Leander, m. *Re.* 196.
- † Utley, Vine [N. L.], m. *Re.* 195; expelled, 1819.
- † Utter, Albert [N. L.], m. '51, 16; removed to Plainfield, N. J.
- † VAILL, CHARLES [L.], m. '31, 8; '35, 3; '42, 3.
- † Vanderburgh, Federal [L.], m. *Re.* 18; M.D., Yale, 1826; died 1868.
- † Van Vleet, Peter P. [F.], m. '91, 332.
- † Varno, Arthur Joel [H.], 1891, Broad Brook.
- † Varno, Henry G. [H.], 1891, Thompsonville.

- † Vinal, Leonidas Curtis [M.], m. '79, 181; '80, 24, 194; '85, 20; Biog. sketch of, '86, 187.
- † Vinton, Alexander Hamilton [W.], m. '30, 10; died in Philadelphia, April 26, 1881.

WADE, NATHANIEL, Colonial physician, sketch of, '51, 33.

Wadsworth, Joseph Bissell, Colonial physician, sketch of, '70, 436.

- † Wadsworth, Theodore [H.], m. *Re.* 12; '35, 15; '73, 199, 200.
- † Wadsworth, Theodore Henry [N. H. and H.], m. '33, 8; '35, 8; died 1843.
- † Wainwright, William Augustus Muhlenberg [H.], m. '69, ii. 51; '70, ii. 84; '72, ii. 4; '73, ii. 25, 26, 29; '74, ii. 50, 51, 52, 57; '75, ii. 77, 81, 85; '76, 6, 9; '77, 8, 10, 11, 12, 13, 21; '78, 10, 13, 14, 15, 21, 23; '79, 10, 13, 20; '80, 8, 16, 20, 21; '82, 8, 13, 21, 22, 23, 30; '83, 4, 41, 45; '88, 18; '89, 8, 15, 17, 20, 22, 32; '90, 26, 40; '91, 15, 18, 38; Reports, '77, 55, 59, 65; '78, 54, 73; '79, 48; '80, 28; '81, 15; '82, 40; '83, 56; '88, 190; '90, 18; Sketch of Dr. Warner, '85, 211; Proper care of the seriously injured, '91, 117.

Waite, Marvin, m. *Re.* 177.

- † Wakefield, John Luman [L.], m. '48, 14; M.D., Yale, 1847; died 1874.
- † Wakeman, Moses Henry [F.], m. '54, 23; '78, 22; '90, 20; died Feb., 1892.
- † Wakeman, William James [F.], m. '79, 181; '80, 24, 193.
- † Waldo, Albigeance [W.], Corporator of the Conn. Med. Soc., *Re.* vi.; m. *Re.* 3, 4, 5, 13, 21; '35, 15; '51, 52; died Jan. 29, 1794.

† Waldo, Roger [W.], m. *Re.* 13, 87, 96.

† Wales, Lemuel [H.], m. '43, 9.

Walker, Alfred Eastman, m. '68, ii. 23; M.D., Yale, 1867; died 1873.

† Wall, Jonathan [W.], m. *Re.* 27.

† Walsh, Arthur Joseph [L.], m. '90, 32; *Welch* in the Proceedings.

† Walsh, Frederick William [T.], m. '85, 20; '90, 9; Report, '85, 93.

Walton, Lucius Clark, m. '44, 21.

- * Ward, Arthur, m. '64, ii. 1, 8; hon. mem., '65, ii. 63; resides in Newark, N. J.
- † Ward, Charles S. [N. H.], m. '35, 8.
- † Ward, Charles Samuel [N. H.], m. '64, ii. 25; '66, ii. 91.
- † Ward, Edward Turnbull [F.], '77, 18; '81, 237.
- † Ward, George Augustus [N. H.], m. '61, ii. 36; '65, ii. 50; '69, ii. 77, 80; '71, ii. 117; *Veratrum viride*, '69, 270; Subcutaneous injections, '69, 275; died 1882.
- † Ward, James [F.], m. '82, 26.
- † Ward, Josiah Meigs [H.], m. *Re.* 239.
- † Ward, Levi [M.], m. *Re.* 112, 119, 123, 129, 133; died in Rochester, N. Y., Jan. 4, 1861.
- * Ware, John, hon. mem., '59, 10; died 1864.
- † Warner, Abner Spicer [H.], m. '49, 13; '53, 3; '61, ii. 23; '76, 19; '80, 22.
- † Warner, Andrew Ferdinand [M.], m. *Re.* 233, 239, 245; Biog. sketch of, '82, 146.
- Warner, Egbert Randall, m. '77, 178.
- † Warner, Eli [H.], m. '73, ii. 30; '81, 8; '82, 8; Biog. sketch of, '85, 211.
- † Warner, Horace Seely [H.], m. '88, 27.
- † Warner, Ichabod [T.], Corporator of the Conn. Med. Soc., *Re.* vi.; m. *Re.* 3, 4, 9, 15, 21, 27, 33, 34, 39, 43, 53, 57, 61, 67, 72; '35, 15; Sketch of, '70, 430.
- † Warner, Ichabod Mape [T.], m. *Re.* 14; '35, 16.
- † Warner, Jared [W.], m. *Re.* 4, 13, 21, 28, 34, 45.
- † Warner, Ozias [L.], m. *Re.* 14; '35, 16.
- † Warner, Reuben [L.], m. *Re.* 290.
- † Warner, Richard [M.], m. *Re.* 253, 259, 267, 275; '30, 3; '31, 3; '34, 3; '39, 3; '45, 5; '50, 3, 8, 23; '51, 23; '54, 10; Dissertation, '40, 5; Vice-Pres't, '51, 4; '52, 4; Pres't, '53, 3; Biog. sketch of, '54, 58; '82, 146.
- Warren, Abner S., m. '63, ii. 122.
- † Warren, Edward Winslow [N. H.], October, 1891, Ansonia; M.D., Harvard, 1883.
- † Warren, Joel Addington [T.], m. '61, ii. 66; '71, ii. 110; '77, 14; '79, 9, 13, 21; '80, 22; '91, 32; Biog. sketch of, '91, 313.
- * Warren, John Collins, hon. deg. of M.D., *Re.* 73; hon. mem., *Re.* 261; died 1856.

- † Warren, Levi [N. L.], m. '71, ii. 109; Biog. sketch of, '73, 222.
- † Warren, Stanley Perkins [F.], m. '75, ii. 98; '76, 12.
- † Warren, William Watts Jones [N. L.], m. '40, 6; '45, 5.
Washburn, Edward Lyman, m. '66, ii. 101.
- Waterman, Luther, Army surgeon in War of the Revolution,
m. '62, 180.
- † Watkins, Ralph Bruce [H.], m. '82, 201; '89, 26; '91, 32;
Biog. sketch of, '91, 316.
- † Watrous, John [N. L.], Corporator of the Conn. Med. Soc.,
Re. vi.; Member of com. for exam. army surgeons in
War of Revolution, '51, 49; m. *Re.* 15.
- † Watrous, John Richard [N. L.], Regimental surgeon in War
of the Revolution, '51, 49; m. *Re.* 16, 21, 23, 27, 33, 34,
39, 43, 53, 61, 71, 83, 87, 91, 95, 101, 102, 107, 111,
117, 133, 143, 171; hon. deg. of M.D., *Re.* 114; Vice-
Pres't, *Re.* 123; Pres't, *Re.* 129, 137, 147, 153, 159, 165.
- † Watson, Hiram [H.], m. *Re.* 289; '33, 7.
- * Watson, John, hon. mem., '52, 8; died June 3, 1863.
- † Watson, Wilbur Seymour [F.], m. '85, 21; '89, 31.
- † Watson, William L. [F.], m. '42, 9.
- † Wattles, Thomas Prentice [N. L.], m. *Re.* 290; '32, 7; '33, 7;
'43, 3; hon. deg. of M.D., '45, 7; death mentioned,
'55, 21.
- * Watts, Robert, hon. mem., '54, 10; died in Paris, Sept. 8,
1867.
- † Way, Hervey Ellsworth [M. and H. and N. H.], m. '50, 14;
'53, 16; '76, 12; '83, 4; *Harvey B.* and *Henry E.* in the
Proceedings.
- † Weaver, Clinton Hosmer [H.], m. '81, 19, 224.
Weaver, James Langford, m. '67, ii. 115; '68, ii. 24.
- † Weaver, Lathrop P. [N. L.], m. '65, ii. 50; removed to
Kansas.
- † Weaver, Noel [H.], m. *Re.* 289; M.D., Dartmouth, 1827;
Glastonbury; moved to Rochester, N. Y.
- † Webb, Charles Henry [L.], m. '32, 10; '38, 3; '61, ii. 24, 25;
'63, ii. 82.; Biog. sketch of, '76, 143.
- † Webb, Daniel Meigs [N. H.], m. '55, 18; '63, ii. 81.
- † Webb, Joel Audubon [N. L.], m. '89, 27.

- † Webb, Reynold [N. H.], m. *Re.* 202, 253, 285; '32, 3, 7; '34, 3; '37, 3; '39, 3; '43, 3; '49, 3; '50, 3; '55, 6; Biog. sketch of, '61, 129.
- † Webb, Samuel [F.], Colonial physician, m. *Re.* 15, 101; Sketch of, '53, 32.
- † Webb, William [W.], m. *Re.* 253, 290; '30, 3; '41, 3; M.D., Yale, 1820; died 1847.
- † Webster, Augustine James [H. and M.], m. '61, ii. 35; '62, 66; Biog. sketch of, '65, 152.
- Webster, Charles Edwin, of Maine, m. '79, 28.
- * Webster, Eliphalet Knight, m. '65, ii. 36, 42; '66, ii. 78; hon. mem., '66, ii. 85; died Nov. 9, 1881.
- † Webster, Henry K. [H.], m. *Re.* 289; Eastbury.
- † Weed, Alfred James [H.], m. '79, 26.
- † Weed, Benjamin [H.], m. *Re.* 289; '30, 8.
- † Weed, Benjamin, Jr. [H.], m. *Re.* 245.
- † Weed, Willis Edward [F.], m. '87, 26.
- * Weir, Robert Fulton, m. '78, 12, 28, 29; '90, 29; hon. mem., '91, 27; resides in New York city.
- Welch, Arthur Joseph, m. '90, 32; see Arthur Joseph *Walsh*.
- † Welch, Archibald [W. and T. and H.], m. *Re.* 185, 213, 259, 275; '34, 3; '36, 3; '50, 8; '52, 3, 4; '53, 59; hon. deg. of M.D., '36, 5; Scarlet fever, '37, 6; Sec'y, '38, 3; '39, 3; '40, 3; '41, 6; '42, 4; Vice Pres't, '43, 4; '44, 6; '45, 9; Pres't, '46, 5; '47, 6; '48, 6; vote of thanks to, '49, 5; Resolutions touching his loss of life by the Norwalk disaster, '53, 5; Biog. sketch of, '54, 55.
- † Welch, Benjamin [L.], m. *Re.* 13, 87, 95, 101, 107, 111, 117, 123, 133, 137, 143, 147, 153, 159, 207; hon. deg. of M.D., '38, 5; Sketch of, '51, 54.
- † Welch, Benjamin, Jr. [L.], m. *Re.* 213, 275; '30, 3; '34, 3; '38, 3; '42, 3; '43, 3; '47, 3; '52, 9, 21; '53, 23; '59, 6; Dissertation, '35, 5.
- † Welch, Edward Hubbard [L.], m. '77, 178; '90, 32.
- † Welch, George Kellogg [H.], m. '81, 19.
- † Welch, James [L.], m. '32, 10; '50, 3; '57, 4, 10; '63, ii. 82, 83, 86, 87; '65, ii. 36; Biog. sketch of, '87, 188.
- Welch, John Benjamin, m. '60, 71; '63, ii. 121; death mentioned, '62, ii. 80.

- † Welch, John Hopestill [L.], m. '51, 18; '52, 3, 5; '59, 6, 7; '64, ii. 2; exhibits fracture splint, '52, 5, 8.
- † Welch, William Collins [N. H.], m. '76, 11; '77, 179; '84, 18; '88, 18.
- * Welch, William Henry, m. '89, 20; hon. mem., '90, 29; Letter, '90, 291; resides in Baltimore.
- † Welch, William Wickham [L.], m. '38, 5; '48, 3; '54, 3; '57, 26; '60, 6, 7; '77, 9, 10, 14; '89, 9; Sketch of Dr. Stevens, '88, 216.
- † Weldon, John [W.], m. '89, 27; '91, 8.
- † Wells, Gaylord [L.], m. *Re.* 245, 267, 290; '34, 3; hon. deg. of M.D., *Re.* 268.
- Wells, Horace, Resolutions relative to his discovery of the principle of anæsthesia, '53, 10; '70, ii. 79; '76, 14.
- Wells, Horatio Thomas, m. '41, 7.
- † Wells, James [H.], m. *Re.* 12; '35, 15.
- † Wells, John Freme [H.], m. '44, 13, 21; '48, 3; '57, 3; died 1871.
- † Wells, Sylvester [H.], m. *Re.* 12, 178, 183, 189, 207; hon. deg. of M.D., *Re.* 190.
- † Wells, Thomas Thompson [N. L.], m. *Re.* 245, 259, 267, 269; '41, 11; hon. deg. of M.D., *Re.* 255; died 1842.
- † Welton, Noah Blakeslee [N. H.], m. '52, 21; '55, 18.
- † Werden, William [L.], m. '50, 14; '51, 3; death mentioned, '54, 19.
- Wessels, Leverett W., m. '44, 11.
- West, Eber, m. *Re.* 234.
- † West, Jeremiah [T.], Corporator of the Conn. Med. Soc., *Re.* vi.; m. *Re.* 3, 4, 5, 9, 11, 15, 21, 22, 23, 28, 35, 43, 45, 61, 62, 67, 71, 72, 83, 87, 91, 96, 102, 107; '35, 15; hon. deg. of M.D., *Re.* 114; Vice-Pres't, *Re.* 101; Pres't, *Re.* 111, 117; Sketch of, '70, 427.
- † West, John M. [L.], m. *Re.* 259, 290; '30, 10.
- † West, Redfield Benjamin [N. H.], m. '89, 26.
- † Westlake, Horace Goodwin [L.], m. '50, 14; M.D., Univ. N. Y., 1850.
- † Wetmore, Hezekiah [N. H.], m. *Re.* 16.
- Wheat, Benjamin, Colonial physician, sketch of, '62, 174.
- † Wheaton, Francis F. [W.], m. '37, 11.
- † Wheaton, Jesse [W.], m. *Re.* 13; '35, 16.

- † Wheeler, Elijah [L.], m. *Re.* 13; '35, 16.
- † Wheeler, Franklin [H.], m. '59, 15; '63, ii. 96; M.D., Coll. P. & S., N. Y., 1852.
- † Wheeler, Frank Henry [N. H.], m. '82, 201; '84, 18.
Wheeler, Samuel, regimental surgeon in the war of the Revolution, m. '51, 49.
- † Wheeler, William [F.], m. '35, 9.
- † Whelpley, James Davenport [N. H.], m. '43, 9; died 1870.
- † Whitcomb, James Barton [W.], m. *Re.* 290; '32, 7; '33, 7; '43, 3; '48, 3; '52, 3; '61, ii. 24, 25; '63, ii. 121; '66, ii. 78, 79; '68, ii. 25; '69, ii. 38; '71, ii. 110, 111, 113; '73, ii. 45; '76, 6, 7; '79, 10; '81, 20; Biog. sketch of, '82, 170.
- † White, Adonijah [T.], m. '46, 16; '49, 3; '52, 3; '54, 19; hon. deg. of M.D., '50, 5; Biog. sketch of, '79, 171.
- † White, Bartow F. [F.], m. '34, 8.
- † White, Benjamin Walker [F.], m. '90, 32.
- † White, Caryl Fenelon Seely [N. H.], m. '82, 200; '85, 20, 222.
- † White, Frederick Olin [N. H.], m. '74, ii. 66; '76, 12.
- † White, Jabez Loomis [T.], m. *Re.* 223, 267, 291; '31, 3; '32, 11; '36, 3; '41, 3; hon. deg. of M.D., *Re.* 277; Sketch of, '70, 431.
- † White, Joseph [M.], m. '35, 10; '36, 11.
- * White, Joseph, hon. mem., *Re.* 268; m. *Re.* 277; died in Cherry Valley, N. Y., June 2, 1832.
- † White, Moses Clark [N. H.], m. '54, 23; '56, 3, 6; '61, ii. 26; '63, ii. 81, 82, 83, 85, 87, 89; '72, ii. 2, 4, 19; '73, ii. 25, 26, 27; '74, ii. 49, 67; '75, ii. 77, 79, 81, 98, 99; '76, 5, 7, 9; '77, 12, 15; '78, 12; '79, 9, 11, 13, 17, 18; '80, 8, 15, 18; '81, 7, 13, 34, 53; '82, 20, 31, 32; '83, 11, 13, 14, 15, 40, 41, 44; '84, 10, 11, 14; '85, 8, 10, 14, 15; '86, 13, 16; '88, 15, 28; '90, 13, 21, 28, 29, 43, 45; '91, 8, 15, 17, 19, 25, 28, 40; Reports, '81, 33; '86, 15; Sec'y, '64, ii. 3; '65, ii. 36; '66, ii. 78; '67, ii. 112; '68, ii. 2; '69, ii. 38; '70, ii. 80; '71, ii. 113; '72, ii. 4; '73, ii. 28; '74, ii. 52; '75, ii. 80; vote of thanks to, '75, 11; nom. prof. med. inst. of Yale, '68, ii. 25; Physiol. of crystalline lens, '63, 272; Anomalous surgical case, '63, 289; Vital force, '69, 287; Chloral hydrate, '71, 467; Microspectroscope, '83, 89; Embryonic blood, '90, 185.

- † White, Orrin Chester [T.], m. '32, 11; '39, 3; '45, 5; '50, 3; hon. deg. of M.D., '47, 7; Sketch of, '70, 441.
- † White, Robert Creighton [W.], m. '91, 31.
- † White, Roderick Adams [H.], m. '32, 8; '42, 8; '56, 3; '60, 5, 6, 7, 8; death mentioned, '88, 26.
- * White, Samuel, hon. mem., *Re.* 286; died 1845.
- White, Thomas Howell, m. '63, ii. 105.
- † White, William M. [N. H.], m. '45, 13; Biog. sketch of, '79, 163.
- † Whiting, Joseph Bellamy, *W. K. Whiting* in the Proceedings [L.], m. '51, 18; M.D., Berkshire, 1848; moved to Janesville, Wis.
- Whiting, Samuel, regimental surgeon in war of the Revolution, m. '51, 49.
- Whiting, Walter Churchill, m. '82, 200.
- Whiting, William, Colonial physician and army surgeon; Sketch of, '62, 180.
- † Whiting, William Joseph [N. H.], m. '44, 21; '48, 3; '66, ii. 105; honorably dismissed, '67, ii. 112.
- Whitmore, Truman S., m. '75, 430.
- † Whiton, Francis Henry [H.], m. '79, 26.
- † Whittemore, Frank Hamilton [N. H.], m. '78, 22; '85, 22; '91, 21, 27; Stricture, '85, 163.
- † Whittemore, Franklin John [H. and N. H.], m. '57, 18; '59, 15; '69, ii. 52; moved to Clyde, Ohio.
- * Whittemore, Jacob Putnam, m. '63, ii. 81, 88; hon. mem., '64, ii. 7; M.D., Dartmouth, 1847; died 1873.
- Wiggin, Charles Dearborn, m. '75, ii. 99.
- † Wiggin, Frederick Holme [L.], m. '89, 9, 21, 27; '90, 25.
- Wilcox, Isaiah R., m. *Re.* 260.
- † Wilcox, Jeremiah [L.], m. *Re.* 13; '35, 16.
- † Wilcox, Justus Denslow [H.], m. *Re.* 289; '38, 3; '54, 3; '60, 5, 7; hon. deg. of M.D., '54, 10; died 1871.
- † Wilcox, Lucian Sumner [H.], m. '54, 11; '55, 25; '67, ii. 109, 112, 114; '68, ii. 1, 4, 5, 8; '69, ii. 40, 42; '72, ii. 4; '74, ii. 49, 55; '75, ii. 79, 81; '76, 23; '78, 15, 16; '79, 10, 13; '80, 8; '81, 8, 15, 21; '82, 8, 25; Sanitary reports, '60, 49; '61, 105, ii. 23, 25; '63, 281; Reports, '72, 23; '75, 338; '76, 32; '77, 57; '78, 37, 44, 45; '79, 63;

'80, 28; '81, 67; Nom. prof. med. inst. of Yale, '78, 18;
Biog. sketch of, '82, 155.

† Wilcoxon, Charles T. [F.], m. '31, 7.

† Wilcoxson, Levi Dibble [N. H.], m. '43, 9; (went South, returned in 1861;) m. '68, ii. 15.

† Wildman, Anson [L.], m. '34, 9.

† Wildman, Henry Green [F.], m. '81, 19.

† Wildman, Henry Smith [N. H.], m. '90, 31.

† Wile, William Conrad [F.], m. '74, ii. 54; '79, 10; '81, 8, 9; '82, 8, 23, 29, 33; '83, 3, 5, 19, 28, 40; '84, 4, 9, 14, 21; '85, 8, 15, 17, 22; '87, 18; '89, 31; '90, 26; Report, '84, 33; Surgical notes, '85, 172; '86, 144; Letter, '90, 286.

† Willard, David [M. and F.], '37, 10. (Chester, Middlesex Co., 1816, and afterwards in Wilton, Fairfield Co.)

† Willard, Julius [H.], m. '40, 8.

† Willard, Samuel [T.], m. *Re.* 14, 83, 87, 91, 96, 101, 107, 112, 159, 177, 183; Sketch of, '70, 445.

Willard, Samuel George, m. '73, ii. 31.

* Willard, Sylvester David, hon. mem., '59, 10; died April 2, 1865.

† Willey, Sidney Brainerd [M.], m. '31, 8; '34, 3; M.D., Yale, 1831; died 1853.

† Williams, Amos Loomis [F.], m. '34, 3; '36, 3; '41, 3; '44, 5; '47, 3; '53, 3; '56, 3; '59, 5; '63, ii. 82; '66, ii. 77; '69, ii. 37; '72, ii. 2; '86, 8; '90, 20.

† Williams, Datus [M.], m. *Re.* 234, 290; '43, 3; '50, 3; '55, 3; hon. deg. of M.D., '43, 5; Biog. sketch of, '68, 167.

† Williams, Elias William [H.], m. *Re.* 224, 289.

† William, Elisha [W.], m. '40, 10.

† Williams, George Steele [N. H.], m. '49, 14.

Williams, Henry Willard, of Boston, m. '73, ii. 32.

† Williams, Isaac H. [W.], m. *Re.* 18.

† Williams, Jehiel [L.], m. *Re.* 183, 189, 195, 201, 267, 275; hon. deg. of M.D., *Re.* 235; Biog. sketch of, '63, 299.

Williams, Jesse, Colonial physician, sketch of, '70, 435.

Williams, John Burns, m. '60, 71.

Williams, Jonathan, Colonial physician, m. '51, 40.

† Williams, Lewis [W.], m. '46, 3; '53, 3, 8; '59, 6, 7; '61, ii. 29; '62, ii. 52, 56; '63, ii. 82; '68, ii. 2, 4, 5; '71, ii. 110,

- 112, 114; '74, ii. 49, 52, 54; '75, ii. 78, 79, 81, 85; '77, 9, 10, 16; '80, 9; '82, 9, 25; Biog. sketch of, '82, 171.
- Williams, Merritt H., m. *Re.* 254.
- Williams, Merrill Whitney, of N. Y.; hon. deg. of M.D., '50, 5.
- * Williams, Stephen West, of Deerfield, Mass., m. '40, 5; hon. mem., '39, 5; died July 9, 1855.
- Williams, William B., m. '35, 5.
- † Williams, William Chauncey [H.], m. *Re.* 290; '31, 6; '42, 3; '55, 3; hon. deg. of M.D., '42, 5; Biog. sketch of, '58, 113.
- † Williams, William Cook [N. H.], m. '50, 23; '58, 5; '60, 16.
- † Williston, Samuel Wendell [N. H.], m. '80, 194; '81, 239; '84, 18; '89, 29.
- † Wilson, Frederick Morse [F.], m. '79, 27; '80, 7, 9, 22; '81, 18; '82, 23; '83, 17, 45; '88, 19; '91, 21; Report, '79, 109; Conjunctivitis, '84, 69; Glaucoma, '88, 135.
- † Wilson, John Joseph [H.], m. '88, 27.
- Wilson, John, Colonial physician, m. '53, 32.
- † Wilson, Myron Wallace [H.], m. '48, 11; '50, 3; '52, 3; '53, 8; '56, 7, 19; Biog. sketch of, '56, 25.
- † Wilson, Samuel Allen [H.], m. '52, 21; '55, 17.
- † Wilson, William Virgil [T. and N. H.], m. '68, ii. 23; '76, 14; '85, 21; '90, 32; Intestinal catarrh, '91, 217.
- † Winchell, Alverd Ezra [N. H.], m. '67, ii. 125; '77, 14; '79, 21; '81, 8.
- Winchell, Martin Ebenezer, m. '52, 6; '53, 23.
- † Winslow, Edward H. [F.], m. '70, ii. 93, 125.
- Winsor, Ira Curtis, m. '63, ii. 120.
- Winter, Zina, m. *Re.* 179.
- Winthrop, Gov. John, Colonial physician, '59, 26.
- † Witter, Albert [N. L.], m. '50, 12.
- † Witter, Asa [W.], m. *Re.* 267, 290; '41, 3; '42, 3; '49, 3; '56, 3; '58, 6; hon. deg. of M.D., '40, 5; death mentioned, '69, ii. 55.
- † Witter, Ebenezer [W.], m. '61, ii. 37; M.D., Yale, 1861.
- † Witter, John [W.], m. '54, 11; '57, 25; '67, ii. 140; '69, ii. 38; '72, ii. 2; '74, ii. 50; '76, 6, 7; '78, 10, 11, 13, 15; '82, 8.
- † Witter, Orrin [W.], m. *Re.* 285, 290; '37, 3; '44, 5; '49, 3, 5; hon. deg. of M.D., '44, 7; death mentioned, '69, ii. 55.

- † Witter, William [W.], m. *Re.* 290; '34, 3; '37, 3; '40, 3; '41, 3; '42, 3; '45, 5; '47, 3; '50, 3, 8; death mentioned, '51, 19.
- † Witter, William, Jr. [N. L.], m. '63, ii. 86; '65, ii. 58; '68, ii. 16; '89, 21.
- Witter, William Fisk, m. '71, ii. 127.
- † Wixon, Hanford Lyon [N. H.], m. '69, ii. 58; Biog. sketch of, '78, 205.
- † Wolcott, Alexander [N. H.], Colonial physician; Sketch of, '51, 44; '61, 135.
- † Wolcott, Christopher [H.], m. *Re.* 12; '35, 15.
- † Wolcott, John S. [L.], m. '38, 10; '42, 3.
- Wolcott, Oliver, m. *Re.* 229.
- † Wolcott, Simon [N. L.], Corporator of the Conn. Med. Soc., *Re.* vi.; m. *Re.* 5, 21, 27, 30, 33, 39, 43, 71, 83, 87, 95, 102, 111, 117, 123; '73, 193.
- † Wolcott, Willard [N. H.], m. '81, 19.
- † Wolff, Arthur Jacob [H.], m. '86, 140; '89, 26; Bacteriology, '91, 149.
- Wood, Aaron, m. *Re.* 196.
- † Wood, Anson [T.], m. *Re.* 291.
- † Wood, Edward Addison [N. H.], m. '77, 17.
- Wood, Gardiner C., m. '75, 425, 426.
- † Wood, John [F.], m. *Re.* 15; '35, 16; regimental surgeon in the war of the Revolution, '51, 49.
- † Wood, Luther Hodges [L.], m. '73, ii. 26, 30; '78, 11; '80, 22; '82, 9, 14; '83, 5; Report, '77, 96; '78, 164; '79, 116; '80, 57; prize thesis, '69, 197, ii. 58.
- † Wood, Orson [T.], m. '30, 11; '42, 3; '49, 3, 5; '51, 23; '54, 3; '55, 3; hon. deg. of M.D., '40, 5; Laceration of perinæum, '59, 77; Biog. sketch of, '75, 423.
- † Wood, Preserve [F.], m. *Re.* 15; '35, 16.
- † Wood, William [H.], m. '42, 8; '54, 3; '67, ii. 109, 113; '68, ii. 1; '72, ii. 1, 7; '78, 16; '79, 21; Duties of medical men, '72, 145; Sketch of Dr. Edwards, '85, 212; Biog. sketch of, '86, 173.
- † Woodbridge, William [H. and W.], m. '44, 13, 21; '53, 3; '58, 6, 8; '62, ii. 52; '63, ii. 82; '69, ii. 38.
- † Woodruff, Eleazer [M.], m. *Re.* 14; '35, 16.
- † Woodruff, Franklin [M.], m. '42, 5; '49, 3.

- † Woodruff, Gideon [L.], m. *Re.* 13, 95, 101, 117, 123; died 1846.
- † Woodruff, Lucius [H.], m. '39, 12; '42, 3; '50, 3.
- † Woodruff, Reuben M. [L.], m. '38, 10; '41, 3; '43, 3; '46, 3; death mentioned, '50, 15.
- † Woodruff, William [L.], m. '31, 8; '53, 3; '58, 6, 8; '60, 6, 7; '67, ii. 114; '68, ii. 2, 4, 6; '71, ii. 114; '74, ii. 78; '79, 29; '80, 27; '81, 16; '82, 23; memoir of Dr. Salisbury, '74, 284.
- † Woodruff, Wyllis [N. H.], m. *Re.* 267; '30, 3; '33, 7; '36, 3; '38, 3; '40, 3; '41, 3; M.D., Yale, 1823; died 1842
- † Woods, Jonathan Henry [H.], m. '85, 20.
- * Woodward, Adrian Theodore, m. '67, ii. 110, 114; hon. mem., '68, ii. 7; resides in Brandon, Vt.
- † Woodward, Asa Curtis [N. H.], m. '43, 6; '44, 21; '59, 6; '67, ii. 113.
- † Woodward, Ashbel [N. L.], m. '30, 10; '42, 3; '47, 3; '49, 3, 5; '51, 3, 8; '52, 21; '56, 3; '61, ii. 29; '62, ii. 51, 56, 57; '64, ii. 2, 3, 6, 7, 8, 9; '65, ii. 35, 36; '66, ii. 77, 79, 82, 83; '68, ii. 1, 4, 5, 6; '69, ii. 37, 39, 44; '70, ii. 77, 79, 81, 84; '71, ii. 109, 110, 114; '72, ii. 1, 2, 3, 4, 7; '74, ii. 50, 51, 52, 57; '75, ii. 79, 82, 83; '76, 6, 7, 8, 15, 20; '77, 9, 12, 13; '78, 10, 11, 13, 15; '79, 10; '80, 8, 22; '81, 8, 12, 16; '82, 8, 22; '83, 5; hon. deg. of M.D., '54, 10; Reports, '75, 372; '79, 48; '82, 63; Sketch of Dr. Lathrop, '64, 64; of Dr. Tracy, '71, 482; of Dr. Green, '74, 287; of Dr. Morgan, '78, 211; of Dr. Campbell, '79, 169; Sketches of the early physicians of Norwich, '62, 167; Vice-Pres't, '56, 4; '57, 4; Pres't, '58, 6; '59, 3; '60, 6; Medical ethics, '60, 25; Life, '61, 71; Vindication of army surgeons, '63, 256; Specialism, '66, 264; Cellular physiol. and pathol., '71, 455; Smallpox, '74, 255; New London Co. Med. Soc., '76, 111; Biog. sketch of, '86, 179.
- † Woodward, Charles [M.], m. *Re.* 253, 259, 285; '41, 7; '42, 3; '56, 3; '57, 9; '63, ii. 82; hon. deg. of M.D., '37, 5; Dissertation, '42, 5; memoir of Dr. Hutchinson, '71, 473; Vice-Pres't, '66, ii. 78; Pres't, '67, ii. 112; Address upon organization, '68, 1; Vote of thanks to, '68, ii. 7.

- † Woodward, Edward Prindle [N. H.], m. '60, 71; *Henry* in the Proceedings; '62, ii. 64; '67, ii. 113.
- † Woodward, Elijah Abel [L. and T.], m. '46, 15; '49, 3; '52, 3; removed from Harwinton, Litchfield Co., to Hebron, Tolland Co., thence to Sun Prairie, Wis., where he now resides.
- † Woodward, Frederick B. [L.], m. *Re.* 239, 290; '43, 11; died 1849.
- † Woodward, Henry [M.], m. *Re.* 275, 285; '32, 3; '82, 145; hon. deg. of M.D., *Re.* 277.
- † Woodward, Reuben Sherman [L.], m. '33, 10.
- † Woodward, Samuel [L.], Corporator of the Conn. Med. Soc., *Re.* vi.; m. *Re.* 3, 9, 14, 21, 27, 28, 33, 39, 61, 62, 71, 72, 87, 91, 95, 102, 107, 111, 117, 119, 122, 137, 143, 147; '35, 15; Sec'y, *Re.* 83; hon. deg. of M.D., *Re.* 155; Sketch of, '51, 55.
- *† Woodward, Samuel Bayard [H.], m. *Re.* 201, 207, 213, 223, 229, 233, 245, 253, 259; '30, 4; '32, 3; hon. deg. of M.D., *Re.* 245; Sec'y, *Re.* 267, 275, 285; dissertation, *Re.* 270; removed to Worcester, Mass., '51, 55; hon. mem., '35, 5; died in Northampton, Mass., Jan. 3, 1850.
- † Woolsey, William Walton, m. '53, 23.
- † Wooster, Charles Morris [H.], m. '85, 20.
Wooster, Samuel Russell, m. '57, 25.
- † Wooster, Sylvester [N. L.], m. *Re.* 201, 207, 213, 239, 253.
- † Wordin, Nathaniel Eugene [F.], m. '74, ii. 54; '76, 6; '77, 15; '78, 11, 12; '79, 9, 10, 20, 29; '81, 9, 12; '83, 28; '84, 4, 15, 22; '85, 8, 15, 21; '89, 7, 15, 24; '90, 12, 46; '91, 15, 18; Reports, '78, 137; '79, 102; '80, 20; '86, 212; '90, 23; Essay, '80, 122; Germ theory, '84, 96; Nephrotomy, '90, 209; Sec'y, '88, 17; '89, 20; '90, 30.
- Wortabet, John, m. '75, ii. 153.
- † Worthington, Albert Brownell [M.], m. '46, 10; '53, 3; '59, 6, 7; '69, ii. 38, 39; '74, ii. 50, 51; '76, 22; '79, 10, 11, 21, 22; '82, 9; '83, 4; '85, 9, 11, 17; '88, 9; Report, '73, 191.
- † Wright, Albert Alfred [L.], m. '31, 8; '45, 5; '48, 3; '56, 17; died 1880.
- † Wright, Frank Walden [N. H.], m. '81, 19; '89, 8; '90, 8; '91, 19, 21.

- Wright, George Samuel, m. '85, 18.
- † Wright, Jesse D. [M.], m. *Re.* 179; Haddam.
- † Wright, John Winthrop [F.], m. '81, 20; '85, 8, 23; '90, 8, 12, 13, 29; '91, 22; Report, '86, 198; Microscope, '86, 75; Sketch of Dr. Teeple, '89, 259.
- Wright, Levi Daniels, m. '34, 6; '35, 5; M.D., Yale, 1836; died 1883.
- † Wright, Theodore Goodell [L. and H.], m. '73, ii. 26, 29, 30; '75, ii. 78, 82; '78, 11, 12, 14; '79, 21; '81, 16; '84, 4, 16; '91, 8.
- † Wyford, Daniel [F.], m. *Re.* 259, 267.
- † YALE, John [L.], m. '40, 6; '45, 15.
- Youle, Joseph, dissertation upon respiration, *Re.* 28; died 1819.
- † Young, Francis James [F.], m. '62, ii. 55; '65, ii. 39; '66, ii. 102; '68, ii. 2; '70, ii. 78, 79; '74, ii. 50; '80, 9; '83, 29; '84, 4; '89, 8, 21; '91, 21.
- † Young, Frank N. H. [F.], m. '64, ii. 18; Biog. sketch of, '68, 170.
- † Young, Mary J. Rising [F.], m. '89, 8.
- † ZINK, Walter [N. H.], m. '79, 26; '91, 41; Report, '86, 194.

LIST OF MEMBERS

WHOSE NAMES HAVE NOT HERETOFORE BEEN
PUBLISHED IN THE PROCEEDINGS.

The first list of members published by the Society appears in the Proceedings of 1829, and gives the names of all members of that date. Annually thereafter, up to the present time, the Society has published the names of those who were members at the date of publication. In the Proceedings of 1835 the names of the original members, those of 1792, were first published. Of those who were admitted subsequent to 1792, and who also ceased to be members prior to 1829, there is no mention in the Proceedings excepting such of them as were Fellows, members of committees, or otherwise prominently before the conventions. The object of this List is to rescue from obscurity these names which have so long been hidden from later members. They have been obtained by the clerks of the several county societies, who have searched the records in their possession for the purpose indicated. The names of all other members of the Society may be found in the preceding Index.

HARTFORD COUNTY.

1794	†Samuel Barber,	Simsbury.
1795	†Amos Bush,	Removed from Litchfield Co.
1797	†Hezekiah Woodbridge	
	Bissell,	Wintonburg. Removed to R. I., 1798.
1800	†Solomon Bond,	Enfield.
1804	†Jonathan S. Judd,	Granby. Dismissed 1806.
1805	†George Pratt,	East Hartford.
1807	†Marcus Potter.	
1808	†Alpheus G. Collins,	West Hartford.
“	†Richard Dibble,	Glastonbury.
“	†Zenas Strong,	Marlboro.
1809	†Nathaniel Bosworth,	Hartland. Dismissed 1813.
“	†John Smith,	East Hartford.
1810	†David Bemis,	East Hartford.
1814	†William Everett,	Canton.
1817	†Philemon Jones,	Died 1821.

1818	†Ichabod B. Hyde,	Enfield.
"	†Archibald Hall,	Newington. Dismissed 1828.
1821	†Francis Percival,	West Hartford.
1823	†William S. Brown,	Hartford.
"	†George Hooker,	M.D., Yale 1817. Died in Long Meadow, Mass., May 14, 1884.
"	†Daniel Kingsbury,	Marlboro.
1824	†Amasa G. Porter,	West Hartford.
1826	†Lemuel Whittlesey Belden,	Wethersfield, M.D., Yale 1826. Died 1839.
"	†David Carpenter,	Berlin.

NEW HAVEN COUNTY.

‡Members of the County Society prior to the organization of the State Society.

1784	†Hezekiah Beardsley.	
"	†Phineas Clarke.	
"	†Osee Dutton,	Oxford. Died 1826.
"	†Jared Foot,	Branford (Northford).
"	†John Goodrich,	New Haven. Died 1800.
"	†Nathan Leavenworth,	Waterbury. Died 1799.
"	†Lewis Morgan.	
"	†Gad Pond,	Wallingford.
"	†Preserved Porter,	Waterbury.
"	†Elizur Wheeler.	
"	†William Wright,	Clinton. (?)
1786	†Stephen Hall, Jr.	
1789	†Aaron Gregory.	
1790	†Aaron B. Bradley.	
1793	†Gad Austin.	
1795	†David Smith Brooks,	North Guilford.
"	†Socrates Hotchkiss.	
1796	†Stephen S. Hawley,	Woodbridge.
1798	†Nathaniel S. Lewis,	New Haven.
1800	†William Lambert Foot,	Cheshire.
"	†John Carrington,	Milford.
1802	†Jared Redfield,	Guilford.
1806	†Henry Mead,	New Haven. Removed to N. Y. 1808.
"	†Howard Mitchelson,	New Haven. Died 1817.
1808	†Return E. Jones.	
1822	†Hezekiah Robbins.	
1823	†James Gale Knight,	No. Guilford. M.D., Yale 1822. Died 1826.
1824	†John Alfred Cornwall,	Hamden. M.D., Yale 1818. Died 1825.
1825	†Purcell Cooke,	Wallingford.
"	†Asahel Hall,	North Haven.
"	†George Kirtland,	Guilford.

1825	†Charles Shelton,	Cheshire.
1826	†William A. Alcott,	Wolcott.
"	†Richard A. Denison,	North Guilford.
"	†Henry Abijah Hart,	North Haven. M.D., Yale 1826. Died 1828.
"	†Theophilus Emmons Wood,	Cheshire. M.D., Yale 1826. Died 1871.
1827	†Augustine Prevost Beers,	New Haven. M.D., Yale 1824. Died 1831.

NEW LONDON COUNTY.

1793	†Samuel Barker.	
"	†William Graham.	
"	†Gurdon Lathrop,	Died 1828.
"	†Joseph W. Lee.	
1799	†Elisha Butts,	Colchester. Moved to Windham Co. 1816.
1802	†Daniel Clark.	
1803	†Noah B. Foot.	
1804	†Aaron Comstock Willey.	
1807	†Baruch Beckwith.	
1808	†Benjamin Harris,	Preston.
1812	†Samuel Hunting,	New London.
"	†Gordon Pope Spencer,	New London. A.B., Williams Coll., 1810.
1815	†Marvin Smith,	Lyme.
1817	†Nathaniel Allen,	M.D., Coll. P. & S., N. Y., 1817. Died 1822.
"	†Peleg Smith,	Preston.
1823	†Edward York,	North Stonington.
1825	†Henry S. Burdick,	North Stonington.
"	†David Sherman Hart,	Stonington. M.D., Yale 1823. Died 1885.
"	†Samuel Chesebrough Noyes,	Montville. M.D., Yale 1825. Died 1865.
"	†Caleb O. Raymond,	Lyme.
"	†Wolcott Richards,	New London. M.D., Yale 1825.
"	†John Sill Rogers,	Lyme.
"	†George Wolcott,	Franklin.

FAIRFIELD COUNTY.

1822	†Rufus Skidmore,	Died 1828.
1825	†Thomas Holman.	
1826	†Hosea Edwards,	M.D., Yale 1825.
"	†Edward Elisha Phelps,	M D., Yale 1825. Died 1880.
"	†William P. Shepard.	
1827	†Horace T. Taylor,	Danbury. Died 1828.
1828	†Stephen B. Whitney.	

WINDHAM COUNTY.

- 1797 †John Cleveland, Died 1799.
 “ †Walter Hough.
 “ †Jonathan James.
 “ †William P. Putnam.
 “ †Theophilus Emmons
 Wood, Moved to New Haven Co.
 1803 †Erastus Fitch Brown, Died 1807.
 1809 †Delano Pierce.
 “ †Harvey Robinson.
 1816 †William Bradford.
 “ †Elijah Butts, Moved from New London Co.
 “ †Amos Carroll.
 “ †George Gray.
 “ †Rowland Green.
 “ †Jephtha Hibbard.
 “ †Royal Kingsbury.
 “ †Luther Spalding, Died 1825.
 “ †Epaphras Trowbridge.
 “ †Mason Wainwright.
 “ †James Webb.
 “ †Josiah Saban Wild.

LITCHFIELD COUNTY.

- 1794 †Amos Bush, Removed to Hartford.
 1808 †Launcelot Phelps,
 “ †John Raymond.
 “ †William H. Taylor.
 “ †Anson Tuttle.
 “ †David Warner.
 “ †John Carrington Warner.
 “ †Anson Wright.
 1809 †Henry Tuttle.
 1810 †Edmund Allen.
 1812 †Frederick Graves.
 “ †John Warner.
 1813 †Ashbel Hale.
 “ †Ira N. Bronson.
 1815 †Norman Smith.
 1817 †Benjamin Platt.
 1818 †Samuel Eustis.
 1819 †Samuel Andrews.
 1823 †Samuel Chittenden.
 “ †Sherman Woodward.

1825	†Benjamin Franklin Cleveland.		
1826	†Ives Cowles.		
"	†Eli Reed,	M.D., Middlebury 1824.	Died 1827.
1827	†Miles Belden.		
"	†Paul C. Cheesbrough.		
"	†George O. Jones.		
"	†Norman Landon,	M.D., Yale 1827.	Died 1830.
"	†John W. Russell.		
"	†Solyman Russell,	M.D., Yale 1823.	Died 1828.
"	†Wm. Olmstead Talcott,	M.D., Yale 1823.	Died 1831.
1828	†Amos Butler.		

MIDDLESEX COUNTY.

Prior to 1816	†Joseph R. Andrews.		
"	"	†Joseph Arnold,	Middletown.
"	"	†Alden Carter.	
"	"	†Abner D. Clark.	
"	"	†William Foot,	Durham.
"	"	†Gibbons Jewett.	
"	"	†Lyman Norton.	Durham.
"	1829	†John J. Catlin.	
"	"	†Richard Chalker.	
"	"	†Ebenezer Munger.	
"	"	†Richard Smith.	

TOLLAND COUNTY.

1797	†Roswell Bradley.		
1799	†Joshua Griggs,	Tolland.	
1803	†Eliphalet Lyman,	M.D., Dartmouth 1814.	Died 1858.
1806	†John Lee Tinker.		
1825	†Lucius Abbott.		

SUMMARY.

Honorary members,	.	.	.	.	98
Ordinary members,	.	.	.	.	2,383
Total membership,	.	.	.	.	2,481
Other names,	.	.	.	.	503
Whole number of names,	.	.	.	.	2,984

YALE UNIVERSITY,
DEPARTMENT OF MEDICINE.

1892-93.

FACULTY.

REV. TIMOTHY DWIGHT, D.D., LL.D., PRESIDENT.

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CHARLES A. TUTTLE, M.D., *Assistant in the Surgical Clinic.*

ALEXANDER W. EVANS, M.D., *Assistant in Chemistry.*

ROBERT O. MOODY, B.S., *Instructor in Histology.*

WARREN A. SPALDING, *Demonstrator of Pharmacy.*

LABORATORY INSTRUCTION.

The school has well-equipped laboratories, and this kind of instruction is a feature of the course, there being required from each student a large amount of systematic and thorough work in chemistry, anatomy, histology, and pathology.

CLINICAL INSTRUCTION.

The system of *personal instruction* which has led to such satisfactory results in the work of this school, has been further improved under the more favorable conditions of a commodious *Dispensary Building*, which has been erected on the University grounds. The recently completed *Farnam Ward* and *Operating Theatre* have also greatly increased the facilities for instruction at the New Haven Hospital.

COLLATERAL INSTRUCTION.

In addition to the regular studies of the curriculum, medical students here have the unusual opportunities of increasing their fund of general information which arise from their residence in a great educational center. As members of the University there are open to them numerous lectures on scientific and other subjects, the scientific collections, and the free use of the University Library of 160,000 volumes.

TERMS OF ADMISSION.

Candidates for admission to the course leading to the degree of Doctor of Medicine, must be at least eighteen years old, and must present satisfactory testimonials of moral character from former instructors or physicians in good standing.

As evidence that he has had a sufficient preliminary education, each candidate must present proof that he has passed the matriculation examination of some scientific, literary, or professional college in good standing; or present testimonials from the proper officer that he has pursued the course of some high school, academy, or preparatory school, approved by the Faculty; or he must pass an examination. For particulars of which, see the annual announcement.

FEES AND EXPENSES.

Matriculation Fee (paid upon entering the School),	-	-	-	-	\$ 5.00
Tuition Fee, first and second year, each,	-	-	-	-	125.00
Tuition Fee, third year,	-	-	-	-	75.00
Graduation Fee, -	-	-	-	-	30.00

There are no extra expenses, except the actual cost of breakage in the Chemical Laboratory, which should not exceed \$5.00, and the cost of anatomical material.

PRIZES.

The Campbell Gold Medal is awarded to that member of the graduating class who has maintained the highest rank in the examinations of the course.

The Keese Prize of \$140 is awarded annually to that member of the graduating class who presents the best thesis.

GRADUATE INSTRUCTION.

The instruction here offered to graduates in medicine is intended to meet the requirements of two classes of students: first, to those who wish to review or supplement their knowledge of the regular studies of the medical curriculum, as taught in this school; and second, those who wish to fit themselves in special lines of medical work, as for the duties of a medical examiner, or for medico-legal and sanitary examinations.

For announcements and further information apply to the Dean,

DR. HERBERT E. SMITH,

NEW HAVEN, CONN.

